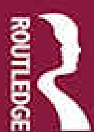
ROUTLEDGE GUIDES TO USING HISTORICAL SOURCES

HISTORY AND ECONOMIC LIFE

A STUDENT'S GUIDE TO APPROACHING ECONOMIC AND SOCIAL HISTORY SOURCES

Edited by
GEORG CHRIST and
PHILIPP R. RÖSSNER



History and Economic Life

History and Economic Life offers students a wide-ranging introduction to both quantitative and qualitative approaches to interpreting economic history sources from the Middle Ages to the Twentieth Century.

Having identified an ever-widening gap between the use of qualitative sources by cultural historians and quantitative sources by economic historians, the book aims to bridge the divide by making economic history sources more accessible to students and the wider public, and highlighting the need for a complementary rather than exclusive approach. Divided into two parts, the book begins by equipping students with a toolbox to approach economic history sources, considering the range of sources that might be of use and introducing different ways of approaching them. The second part consists of case studies that examine how economic historians use such sources, helping readers to gain a sense of context and understanding of how these sources can be used. The book thereby sheds light on important debates both within and beyond the field, and highlights the benefits gained when combining qualitative and quantitative approaches to source analysis.

Introducing sources often avoided in culturally-minded history or statistically-minded economic history courses respectively, and advocating a combined quantitative and qualitative approach, it is an essential resource for students undertaking source analysis within the field.

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Foreword

The origins of this book date back to late 2012 when we started working at the University of Manchester and thought about new forms of teaching premodern history. We felt there was an imbalance regarding quantitative and economic history in the mainstream history provision, e.g. regarding the offer of foundational modules for both undergraduate and graduate students. We thus started drawing out a programme of source analytical training that would include and combine both qualitative and quantitative approaches and methods in an attempt to move away from a theory-and-text only approach to what we felt was a more balanced, more holistic take on historical source analysis. We first experimented with a MOOC and other online formats within our institutions, before we found in Routledge/Taylor & Francis an interested partner that encouraged us to take the project forward. We felt that a collective effort would provide the best results and decided to seek collaborators from within our then 'pirate', i.e. unofficial, research network in economic history, which has evolved, rather gloriously, into an official research network and even been raised to the lofty heights of a research Centre for Economic Cultures at the University of Manchester. We are glad that all of the original members of the informal network still here in Manchester and some new colleagues have joined us in the effort and contributed not only to the book but also to a sense of collegiality and an ever inspiring and friendly environment for the devising of this book. Very much in this spirit, we met in May 2018 and again in spring 2019 to write together in the history library, which was a pleasant and productive experience. Most contributors also read and commented on colleagues' contributions. This is, therefore, a truly collaborative work and we thank all contributors for this. We also thank the anonymous reviewers of the book proposal for insightful and constructive suggestions and our contacts at Routledge, namely Zoe Thomson, for the smooth and always friendly cooperation and occasional kind nudging and encouragement.

This book draws strongly on the teaching practice of the research group in economic history at the University of Manchester, not least its master-level capitalism course, and thus is particularly well suited to serve the teaching of the history of capitalism, a fast-growing field in economic history. This has started as a project focused on how to teach students critical awareness and source analysis with particular regards to economic history sources, and we are thus very glad that this book has brought the project to a full circle and, as it were, a much larger circle than anticipated. The resulting guide is not only aimed at undergraduate and graduate students and in particular those taking introductory or advanced courses in economic and social history as well as the history of capitalism, but also their teachers working on economic and social questions. We hope that it will be useful also to all those interested more generally in problems of economics, the economy and history.

We thus hope this guide will trigger the curiosity of many, entice them to the study of economic history in the broadest sense, and help them a bit on the way identifying and analysing relevant sources. In the wake of the last financial crises and in the face of globalisation afflicted by rising levels of global inequality, depletion of natural resources and looming climate change, we believe holistic and responsible approaches to both history and economics are badly needed. If this little book in any way could foster such approaches, by contributing to an integrated, broad study of economic history we would be most richly rewarded for our efforts.

This is a book very much motivated by and resulting from encounters with those of our students, who were brave enough to venture into economic history despite the, then and sometimes still, prevailing cultural historical orthodoxy. This book is dedicated to all those intrepid enough to leave well-trodden tracks and to venture into new and rediscovering old fields – such as economic and social history.

Georg Christ
Philipp R. Rössner
Manchester, September 2019

Introduction: Why and how do we read economic history sources?

Georg Christ and Philipp R. Rössner

Historians' skills might often seem tacit. Contrary to, say, archaeologists or economists it is perhaps more difficult to define what instruments you might find in the historian's toolbox. This book, acknowledging a dearth of introductory material of this kind, will hopefully fill some of the lacunae in the literature introducing students to some of the historians' sources and methods.

It will try to give the reader an overview of some of the possibly useful tools for the study of economic history sources, or, to be more precise, sources that shed light on aspects of economic and social lives of people in the past. In the first section of this introduction, we will provide an overview of types of sources and methods, encouraging the reader to adopt a combined approach, using both quantitative and qualitative methods. In the second section, we will explain the structure of this guide, which is roughly divided into a part on source typology and quantitative as well as qualitative approaches, followed by the second part containing case studies. This book cannot remedy the wide divide that still exists between quantitative and qualitative analyses. But grounded in the firm conviction that these approaches ought to be complementary rather than exclusive it seeks to introduce methods of both sides suggesting ways to combine the two. This guide is thus aimed at economists interested in history as well as historians feeling the need to bring the economic dimension back into mainstream history.

I.1 Why and how to read economic history sources – the quantitative-qualitative divide

Why should we read economic history sources and how should we go about it? The first question is quickly answered: Economic history sources matter because they represent the backbone of the actual history of peoples' daily lives. Earlier historiographical schools and traditions, such as Marxism and Historical Materialism or the French *Annales* School[1] examined prices, wages, living standards and other 'economic' indicators as a matter of course when asking broader historical questions (that did not have to be 'economic-historical' by necessity). Yet this approach has moved out of focus in the Western world in the wake of the 'cultural turn' as will be discussed below and in chapter 1.

This leads us to the more difficult question of the 'how'. Firstly, we have to decide whether we should do it ourselves or leave it to others, e.g. should economic history sources be the field of specialist investigation or should we consider them of general historical interest? If we opt for the former, we secondly have to decide how to go about it. Should we train specialists from economics or history or form hybrid scholars in between? While the French annalists would have mostly opted for a holistic approach, i.e. would have, to an extent, involved all historians, increasingly the study of economic data was relegated to 'economic historians', i.e. scholars with a background in either economics or history, often with a mathematical or quantitative focus, that is scholars of the Cliometrician type (see also chapter 1).[2]

This division of labour has seen mainstream historians increasingly focus on the 'cultural' at the expense of structural and economic features. The study of numbers and figures seems to align with structuralist approaches that were critiqued by a school of thought influenced by phenomenological concepts and in particular by scholars such as Michel Foucault, Pierre Bourdieu or Jacques Derrida. Some thus have expressed reservations against the use of numbers, data series, or any sort of 'structural' analysis giving rise to attempts to comprehend human history through the changing lenses of various 'turns'; be they cultural, linguistic, spatial, material, or praxeological.[3] This contributed towards a detachment of mainstream

history from material-economic substructures and quantitative approaches. Instead cultural dimensions such as feelings, tastes for fashion, sentiment and agency became more prominent in historical analysis. The taste for economic and structural histories, it would seem, has all but vanished amongst the majority of historians.

A wide gap thus separates economics and history as emphasised in what remains a magisterial introduction to economic history: *Tra due culture* (*Between Two Cultures*) by Carlo Cipolla.[4] While cultural historians increasingly abstained from using quantitative sources, economists tended to shun qualitative in-depth source analysis. Both schools of thought if followed in isolation run the risk of developing tenuous hypotheses that fall short of a holistic approach. This gap has rather widened than narrowed since. The spheres of the economic and the cultural, however, cannot be meaningfully separated: Everything cultural or human is manifestly economic whilst every economic fact, structure and stricture invariably has cultural traits. The economy is embedded within a wider context – 'culture' – which in return is conditioned and structured by economic conditions.[5]

Another problem of this gap is that it equates the quantitative with the economy and the qualitative with (cultural) history. Yet not all 'economic' historical data or evidence needs to be quantitative, and not all quantitative evidence is 'economic', as the political and social history study by Jonathan Sperber on voting patterns for the German Reichstag shows.[6] Not all factors and aspects of economic lives can usefully be reduced to quantitative metrics or captured quantitatively. Happiness, for instance, is commonly thought of as an important ingredient to human welfare. Yet it is not captured in any of the mainstream indexes measuring economic well-being, wealth and development, such as Gross Domestic Product, indices which are mostly based on *material* (i.e. measurable) aspects of performativity, such as factor inputs, productivity and *marketed* inputs into the economic process.[7]

This is not to say that history and economics have not recognised this gap and its problems. New Institutional Economics (NIE), for instance, do acknowledge the importance of belief systems, rules of law and systems of regulation in the performance of markets and economies over time. Although not all economic historians might agree with the respective

definitions, they go some way towards integrating culture into economic history.[8] Historians as well, in recent years, have claimed to turn more towards quantitative and structural approaches.[9] The 'new' fields of the history of capitalism or economic humanities (often with a focus on post-1800 British or American business history or histories of global commodity chains) have brought economic themes back into mainstream history. Sometimes they even try to combine numbers (prices, wages, incomes, business cycles, commodity chains) with a more social-cultural approach sensible to the lives, choices and constraints of individual or collective actors. They thus highlight capitalism's embeddedness in wider social, political, cultural, legal and institutional systems.[10] Many such recent studies nevertheless have avoided, deliberately or not, using the label 'economic history'. The gap should have been closed by now but, unfortunately, this is not the case: Both NIE and history of capitalism tend to establish new sub-schools of economics and history respectively that are not always effectively communicating with each other.

This book, therefore, seeks to build a bridge between the disciplines and thus focuses on a broader and more inclusive understanding of 'economic history' and wider framings of 'the economic' between and beyond disciplinary constraints. It provides an introduction to sources used on both sides of the divide and seeks to integrate their analysis in the service of a more comprehensive interpretation. Partly owing to the revival of economic history in the guise of the history of capitalism, the guide seeks to contribute to the development of a shared toolbox for history and economics wherein both quantitative as well as qualitative source analyses have a place. We suggest that, as a rule, they should be used in combination. Many of the sources, techniques and approaches discussed in this guide thus are qualitative. On the other hand, there can be a quantitative story behind sources that appear to be 'non-quantitative' upon first sight: Consider for instance literary sources, which may be submitted to quantitative analysis, e.g. with regard to linguistic questions or style patterns. In the same way as 'economic' factors shape broad historical processes, there are many 'non-economic' influences codetermining processes commonly benchmarked as 'economic'. Many a modern historian's definition of what is and what is not (to be considered)

‘economic’ hinges upon a modern definition of ‘economy’ and ‘economic’ that is contingent and not only anachronistic when applied to other times and places but also selective in its interpretation of current problems.[11]

This source guide thus humbly suggests that traditional, mainly qualitative approaches to general historical themes may benefit from a quantitative approach and ‘economic’ reading of sources including those not primarily or commonly thought of as ‘economic’. On the other hand, it argues that quantitative source analysis greatly benefits from qualitative assessment of the sources and robustness checking of the resulting analyses. It is not intended to give preference to either approach – quantitative or qualitative, although it cannot negate that traditional historical approaches somewhat dominate – it is thus, admittedly, and despite all attempts at a balanced approach, more of a historians’ than economists’ guide to economic history sources.[12] We nevertheless hope that this guide may contribute towards closing the gap, to help colleagues, who recognising the need to blend methodologies, to bridge the gap, are often laconically advised against such endeavour and told to choose their side, their tribe with its respective orthodoxy, methods, source preferences. Our hope is that we can lend these colleagues a hand, to provide an assortment of short readings to facilitate a brief excursion into, as it were, enemy waters without raising too much suspicion within the tribe. We dare not hope to reach tribal leaders to induce them to take a less heavy-handed approach towards young colleagues thinking beyond the box, but if they would, that would be more than we ever hoped for.

I.2 Structure of this guide

Building on the section above, the first chapter of the source analytical part will provide you with an overview of the development of economic history in order to better understand the challenges of the gap characterising the field. This includes also a short side-note on how, as a consequence, economic history is taught (or not) in undergraduate courses both in economics and history. The second chapter introduces you to a wide range of primary sources that might be of interest to the historian studying economic aspects and, hopefully, also to one or the other economist interested in historical aspects of economic problems. It treats a wide variety of cultural, economic and social historical sources. This, we trust, fills an important gap in the introductory literature. This guide will introduce you to new types of sources often avoided in culturally minded history courses such as coins, accounts, tax and customs records, port books, deeds etc. This is a type of source much used by economic historians but sometimes avoided by cultural and social historians. Chapter 3 focuses largely on what Hudson called *History by Numbers*, i.e. quantitative approaches, but also techniques of how to use sources including[13] a section on data management and how to configure and use databases. Chapter 4 introduces the reader to qualitative approaches with a certain emphasis on linguistic, narrative and discourse analysis. Especially the first section of this guide seeks to demonstrate how the quantitative approach can be productively coupled with qualitative analyses of sources in order to check the validity of hypotheses gained from quantitative analysis. How do more recent qualitative techniques and approaches feed back to a more rigorous and reliable quantitative approach to source criticism? How can the two ‘q’s be married pragmatically and productively? We maintain that it is worthwhile to constantly rebalance quantitative and qualitative analysis as almost every source or type of source can and ought to be analysed in both ways.

This is, in various ways, explicated in the second part providing a range of case studies in which economic historians from both sides of the divide are using their sources. These studies will also shed light on important

debates, 'Methodenstreite', in the wider discipline of economic history as well as beyond, relating to descriptive vs. analytical history, the problem of models in history and economics, positivism and materialism vs. idealism etc. It will highlight how economic sources, economic history, matter not only for economists, economic (and social)[14] historians, and how certain extremes of cultural history, which can become rather anecdotal, may gain in strength whence put in dialogue with economic history and its sources.

The guide thus hopes to be a broad-minded introduction to the quantitative and qualitative use of sources from the Middle Ages to the Twentieth Century touching upon a variety of types of sources, methodologies and histories. As a primer on primary sources in social, economic and business history, it hopes to contribute a small quantum towards linking the two worlds of history and economics, of quantitative and qualitative analysis.

Notes

1 Named after their flagship periodical *Annales d'Histoire Économique et Sociale*. For an overview, see Peter Burke, *The French Historical Revolution: The Annales School 1929–89* (Stanford: Stanford University Press, 1990). Arguably its most famous protagonist was the French social historian Fernand Braudel; other names include Emmanuel Le Roy Ladurie, Marc Bloch, Robert Mandrou, Georges Duby and Jacques LeGoff. Another venerable tradition was the so-called 'Bielefelder Schule' or social science approach to historical study of people in their social, political and economic context which flourished in West German academia in the 1970s and 1980s. On different European and global economic historical traditions see Francesco Boldizzoni and Pat Hudson (eds.), *Routledge Handbook of Global Economic History* (London & New York: Routledge, 2016).

2 Clio is the Greek muse of history. Claude Diebolt and Michael Haupert (eds.), *Handbook of Cliometrics*, new ed. (New York: Springer, 2019). For a critique see Francesco Boldizzoni, *The Poverty of Clio. Resurrecting Economic History* (Princeton: Princeton University Press, 2011).

3 See chapter 4 for a more detailed assessment of these approaches and recommendations on how to combine them with rather than pitch them against quantitative methods.

4 Carlo M. Cipolla, *Tra due culture: introduzione alla storia economica*, Biblioteca storica (Bologna: Il Mulino, 1988); Engl. translation *Between Two Cultures: An Introduction to Economic History* (New York & London: W. W. Norton & Company, 1991).

5 Philipp Robinson Rössner, 'Historia Magistra Vitae – Ad acta oder ad nauseam? Frühneuzeitforschung und Wirtschaftsgeschichte im Zeitalter von Neoliberalismus und Trump (1973–2018),' *Zeitschrift für Historische Forschung*, 45 (2018), 1–64.

6 Jonathan Sperber, *The Kaiser's Voters: Electors and Elections in Imperial Germany* (Cambridge: Cambridge University Press, 1997).

7 David Pilling, *The Growth Delusion: Wealth, Poverty, and the Well-Being of Nations* (London: Bloomsbury, 2019); Matthias Schmelzer, *The Hegemony of Growth: The OECD and the Making*

of the Economic Growth Paradigm (Cambridge: Cambridge University Press, 2017); Dirk Philipsen, *Little Big Number* (Princeton: Princeton University Press, 2017).

8 See, e.g. the pathbreaking studies by North and others on the subject: Douglass C. North, *Institutions, Institutional Change, and Economic Performance* (Cambridge: Cambridge University Press, 1990); id., *Understanding the Process of Economic Change* (Princeton: Princeton University Press, 2005); id., John J. Wallis and Barry R. Weingast, *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History* (Cambridge: Cambridge University Press, 2009), or Avner Greif, 'Cultural Beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies,' *Journal of Political Economy*, 102/5 (1994), 912–950; id., *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade* (Cambridge: Cambridge University Press, 2006); id. and Guido Tabellini, 'Cultural and Institutional Bifurcation: China and Europe Compared,' *American Economic Review*, 100 (May 2010), 135–140.

9 Jo Guldi and David Armitage, *The History Manifesto* (Cambridge: Cambridge University Press, 2014).

10 Jürgen Kocka, *Capitalism: A Short History* (Princeton: Princeton University Press, 2017); Sven Beckert, *Empire of Cotton: A New History of Global Capitalism* (London & New York: Penguin, 2015); Frank Trentmann, *Empire of Things: How We Became a World of Consumers, from the Fifteenth Century to the Twenty-First* (London & New York: Penguin, 2017), and a recent synopsis in Jürgen Kocka and Marcel van der Linden (eds.), *Capitalism. The Reemergence of a Historical Concept* (London: Bloomsbury, 2016). Larry Neal and Jeffrey G. Williamson (eds.), *The Cambridge History of Capitalism*, 2 vols. (Cambridge: Cambridge University Press, 2015).

11 Rössner, 'Historia Magistra Vitae'.

12 An alternative approach is on offer in Matthias Blum and Christopher Colvin (eds.), *An Economist's Guide to Economic History* (London: Palgrave Macmillan, 2018).

13 Pat Hudson, *History by Numbers: An Introduction to Quantitative Approaches* (London: Arnold, 2000).

14 Even though many of the sources, methods and techniques discussed in subsequent chapters also pertain to what is commonly known as 'social' history, a natural focus will be retained on the history of *economic* lives, formerly or otherwise known as 'economic history'.

Part 1

Toolbox

1 The study of economic history – methods and sources[1]

Chris Godden

The idea that mere collections of historical and statistical material can be made available for science without deductive aids, is just as much an extravagance as the opposite idea that out of deductions from elementary hypotheses the whole science can be constructed.

John Neville Keynes (1891)

Let it be acknowledged that for a long time to come there are likely to be many honest and hard-working and intelligent men who will be interested in economic theory: let it be acknowledged, likewise, that there are likely to be a number – small, indeed, in America and England, but still noticeable – who also are honest and hard-working and not altogether unintelligent, who will be interested in economic history.

Sir William Ashley (1893)

1.1 Introduction

In its most basic terms, economic history (*histoire économique* in French, *Wirtschaftsgeschichte* in German, *jinji shi* in Chinese, *kaizái shi* in Japanese) is the historical study of the economic aspects of human existence. The Swedish political economist and economic historian, Eli Heckscher (1879–1952), provided an important and useful definition of the subject:

> The object of economic history is to show how scarce or insufficient means have been used for human ends throughout the ages; how the character of this problem has changed or 'developed'; what these situations and changes in them have been due to; how they have reacted upon other sides of human life and human society.[2]

The full intellectual range of economic history therefore extends beyond what may be seen as pure economic themes (such as the organisation of production and distribution, aspects of trade and commerce) to consider, amongst other things, inequality, living standards, welfare, social transformation, science, technology and education, as well as culture in a wider sense, inasmuch as they concern or directly reflect – and reflect upon – matters economic.[3] With its focus on mankind's existence in a world of innovation, growth, and development, economic history is a discipline whose core principles possess – as Heckscher notes in the above quotation – a powerful human dimension.

The history and methodology of economic history are large topics, ones that have been much explored and discussed, in various contexts, for well over a hundred years. This chapter is therefore a short piece of work on a large and important topic. Before proceeding fully down this well-trodden path, it can do no harm to briefly highlight (possibly for the uninitiated reader?) some useful works – some old, some more recent – from this wide-ranging literature: N. S. B Gras's excellent introduction to the early development of economic history (particularly in Britain and America) up to the beginning of the twentieth century[4]; Witold Kula's study of the methodology of economic history[5]; Carlo Cipolla's account of the nature and substance of economic history[6]; Greasley and Oxley's survey of the methods of modern quantitative (cliometric) history[7]; Boldizzoni's critique

of the cliometric revolution[8]; and, more recently, Blum and Colvin's collection exploring the various relationships between economic research and historical thinking.[9]

From the late nineteenth century through to the early twentieth century, the interests of economic historians had focused largely on comparative historical research to investigate the broad issues of economic life.[10] Limited attention had been given here to incorporating economic and quantitative analysis into the study of economic history. This is not to suggest that there was no recognition of the quantitative aspects of economic history. For example, Sir John Clapham argued that the methodological distinctiveness of economic history lay in its 'marked quantitative interests'[11], while T. S. Ashton described the economic historian as being primarily concerned with 'the typical, representative or statistical fact, rather than the unique, individual fact.'[12] Yet the main point to note is that, as an academic discipline explicitly concerned with the economic aspects of human existence, economic history at the outbreak of the Second World War paid relatively little attention to employing explicit economic theory or quantitative methods in analysing past economic events or processes.[13] The mid-1950s witnessed a dramatic transformation in this relationship (between economic history and economics), and marked the transition from, for want of a better term, 'traditional' economic history to the 'new' economic history. This new approach – defined as 'cliometrics' and characterised by the explicit use of economic theory, quantification, and formal hypothesis tests – now rooted economic history firmly in the methodology of economic science. Consider, for example, the following description of the general position of cliometrics as presented by one of its main creators and practitioners:

> Cliometricians have worked out rules for processing quantitative evidence that are akin to the rules worked out a century and a half earlier by German historians of ancient and medieval societies for the study of languages (philology), writing (palaeography), documents (diplomatics), seals (sphragistics), and coins (numismatics) and for the identification of medieval and ancient weights.[14]

Of key importance to this methodological revolution is the work of two pioneering American academics, Robert Fogel (1926–2013) and Douglass North (1920–2015), who jointly received the Nobel Memorial Prize in

Economic Sciences in 1993 for their research in the use of economic theory and quantitative methods to explain economic and institutional change.[15]

The focus of this chapter is to explore several broad themes connected with the study of economic history. The first section will discuss the origins and development of economic history, focusing specifically on the separation that emerged between economic theory and economic history (characterised by the methodology of the German historical school) in the late nineteenth century. The second and third sections will focus on the methodology and critique of the 'new economic history', while the fourth section will consider the emergence of the new institutional history (in direct response to the cliometric revolution). The fifth section moves the story beyond the history of methodological developments to briefly consider the range of sources used by economic historians. The historical sources that form the main basis for the study of economic enterprises are primarily drawn, both directly and indirectly, from the enormous bodies of data amassed by governments, religious bodies, businesses, law courts, and private citizens. I do not offer – indeed to even attempt to offer! – a catalogue of the various sources that are of interest to economic historians, or the potential difficulties that the use and interpretation of such sources presents. Instead, I present two classic examples, both drawn from the study of eighteenth- and nineteenth-century British history, illustrating the ways in which economic historians have utilised different sources and techniques. The sixth section reflects on two key themes concerning the study and teaching of economic history today – (1) the rich and active characteristics of economic history research in the twenty-first century, and (2) the importance of teaching economic history, and how a new emphasis on a teaching agenda (as opposed to usual focus on the research agenda) can be developed to fit with the learning needs of students in the twenty-first century.

1.2 Origins and development

We can begin the story of the origins of economic history with a useful quote from Gras:

> Who it was, in the medieval or early modern period, that first turned their eyes backwards to scan the horizon of history for economic facts, it is not now possible to say. Probably the first literary efforts have been lost.[16]

The earliest literary efforts in the field of economic history have been lost, but it is certainly possible to identify the intellectual routes of the discipline in several works from the seventeenth century onwards. Notable examples (for various reasons) would include Wheeler's *A Treatise of Commerce* (1601), de Laffemas's *L'Histoire du Commerce de France enrichie des plus notables antiquitez du traffic des païs estranges* (1606), Evelyn's *Navigation and Commerce* (1674), Huet's *Histoire du Commerce et de la Navigation des Anciens* (1716), Sinclair's *History of the Public Revenue of the British Empire* (1784), and McCullagh's *The Industrial History of Free Nations considered in Relation to their Domestic Institutions and External Policy* (1846).[17] Within this list of texts, it is clearly impossible to ignore the historical chapters in Adam Smith's *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776).[18] Indeed, it was George Unwin (1870–1925), the first Professor of Economic History in Britain (at the University of Manchester), who described Smith as 'the first great economic historian', adding that there was 'scarcely a page of *The Wealth of Nations* where history and theory are sundered from each other.'[19] Yet we cannot ignore the fact that many of the early practitioners of political economy in Britain[20] gave little attention to the study of economic history. The important contrast that has to be made here is with Germany where, under the direction of the German historical school, political economy turned much more effectively towards the study of history.[21]

The German historical school (or schools) are traditionally defined as follows: Wilhelm Roscher (1817–1894), Bruno Hildebrand (1812–1878), and Karl Knies (1821–1898) are credited as the leading representatives of the 'older' historical school[22] (although whether they identified themselves

as a ‘school’ is questionable), while the ‘younger’ historical school was led by Gustav von Schmoller (1838–1917).[23] The overall aims of the German Historical School (or schools) was the employment of an inductive rather than deductive method to the study of economic phenomenon i.e. replace what they identified as the unrealistic (deductive) theories of classical economics through a study of history. For Roscher, political economy was a historical science:

> Our aim is simply to describe man’s economic nature and economic wants, to investigate the laws and the characteristics of the institutions which are adapted to the satisfaction of these wants, and the greater or less amount of success by which they have been attended. Our task is, therefore, so to speak, the anatomy and physiology of social or national economy.[24]

Schmoller took this theme significantly further, arguing that the main tasks of economics were observation, definition, and classification, and no economic theory was possible without detailed investigation and knowledge of historical facts and statistical material. In its extreme claims, the historical school(s), which dominated German economics in the late nineteenth century, highlighted the priority of historical inquiry in the investigation of economic phenomenon. It was this that ultimately generated the famous controversy known as the *Methodenstreit* (battle of methods) which, for over two decades from the mid-1880s, raged amongst German-speaking economists over the appropriate method for economics and the social sciences. On one side of this debate stood Carl Menger, who criticised Schmoller’s ‘historical method’, and insisted on the primacy of theoretical analysis to discover absolute laws of economic behaviour. Against this stood Schmoller, who argued that economic laws could only be discovered, and would only be applicable, within their defined historical/cultural context.[25]

The minutiae of the *Methodenstreit* need not detain us here. The main details are simply stated: the deductive method (championed by Menger) ultimately won the battle, and the followers of the German historical school’s methodology failed to produce an alternative economic theory: ‘From these painstaking and extensive efforts surprisingly little has emerged in the shape of contributions to our insight into the working of economic life.’[26] To quote Lionel Robbins at length on this point:

> [T]he historical school, in my judgement, had got the logic of scientific discovery wrong. Their emphasis on the priority of induction was surely misplaced. This is not to say that it is not essential that hypotheses should be tested eventually against their correspondence with fact, but it is to say that *no* science really approaches the confusion of experience without the principle of selection – a principle of selection which, in the last analysis, is traceable to consciously formulated hypotheses or unconsciously formulated principles of selection. The idea that you look, so to speak, at something called history with a mind entirely devoid of ideas – to start what Locke calls tabula rasa – is nonsense … Schmoller and Schmoller's department and its followers produced interesting historical studies, but they produced no significant theory, no significant laws of development which would stand up to logical and historical analysis.[27]

These methodological points aside, the story of the German historical school is important within the broader intellectual development of economic history. Two details can be noted here. First, it is clearly with nineteenth-century scholarship, specifically in Germany (but also reflected in debates that developed in Britain, France, Belgium, Sweden, and the United States), based around a reaction against abstract (deductive) theory of classical economics, that the true academic origins of economic history can be said to lie.[28] To briefly quote Robert Fogel on this point: '[e]conomic history emerged as a distinct discipline during the mid- and late-nineteenth century revolt against the deductive theories of classical economics.'[29] Second, the failure of the German historical school did not lead to the destruction of this new academic discipline (economic history). The position of economic history as a subject of scholarly enquiry and academic teaching expanded steadily in the nineteenth century. For example, the latter half of the nineteenth century in Britain saw the publication of a number of pioneering works in economic history – William Cunningham's *The Growth of English Industry and Commerce* (1882), Arnold Toynbee's *Lectures on the Industrial Revolution in England* (1884), William Ashley's *An Introduction to English Economic History and Theory* (1888)[30], Thorold Rogers' *The Economic Interpretation of History* (1888), and Barbara and John Hammond's *The Town Labourer, 1760–1832* (1900). These developments were further consolidated by the early twentieth century with the creation of specific academic posts, and later specialised journals – the *Economic History Review* (first published in Britain in 1927), the *Annales d'histoire économique at sociale* (first published in France in

1929), and the *Journal of Economic History* (first published in the United States in 1941).

What emerged from the *Methodenstreit* in the early twentieth century (particularly in Britain and America), was therefore a less acrimonious relationship between the economists and economic historians ('truce between the warring factions'[31]). While not leading to a complete reunification of economic theory and economic history, the extreme passions that had characterised the debate about method were not present in Britain. A relationship (of sorts) was thereby established: economists concentrated on the static problems of modern economies, while economic historians explored the determinants of economic growth.[32]

A truce may have been established, but the methodological debates were far from completely silenced. The chief critique of economic history in the early twentieth century was simple: economic history could not be confined to the mere collection and assortment of facts, and the relationship with theory and quantitative analysis still had to be confronted. An important figure is this story is Sir John Clapham.[33] Clapham, a student of Alfred Marshall, had rejected the generalisations of the German historical school, and was acutely aware of the many problems that required quantitative description and analysis. Clapham's great work – *An Economic History of Modern Britain* (published in three volumes between 1926 and 1938) – is recognised as the first attempt to apply quantitative methods systematically to economic history on a large scale.[34] Clapham was very clear in his views around the importance of the quantitative method ('it is possible, all along the line, to make the story more nearly quantitative than it has yet been made') while also recognising that the methodology of economic history was still not 'in the full statistical age.'[35] Yet Clapham's approach to the study of economic history, including the use of conclusion drawn from statistical analysis, has been criticised for being loaded with conditions and reservations.[36] Consider, as an example, the following quotation:

> The conclusion of a difficult problem, which contains a number of doubtfully known quantities, is that whereas on the average the potential standard of comfort of an English (with Welsh) rural labouring family in 1824 was probably a trifle better than it has been in 1794, assuming equal regularity of work, there were important areas in which it was definitely worse, other in which it was probably worse, and many in which the change either way was imperceptible.[37]

Despite the significance of Clapham's efforts ('he is demonstrating for us a method and point of view that are still unfamiliar'[38]), the implications of the quantitative methods were not fully developed. By the late 1930s, the realisation that the 'truce' between the two disciplines was not a satisfactory solution clearly prompted the desire for a new kind of economic history. Let us consider two quotes on this subject – the first from Eli Heckscher (published in 1939), the second from T. S. Ashton (published in 1946):

> **Eli Heckscher**: Finally comes the question of ascertaining the relationship between cause and effect, how is it possible to know that a particular phenomenon has been instrumental in producing certain effects. Quantitative measurement is able to do something for this by way of collecting materials for such an investigation; but it will probably never be able to form the sole basis for this. Every study of the relationship between cause and effect presupposes some sort of general theory, and statistics cannot form the substitute for a theory. But how theoretical study should be carried on in the field of economic history is a great and difficult question.[39]

> **T. S. Ashton**: [T]he historian is increasingly feeling for the structure that underlines the surface of events, for explanation and interpretation. The economist is increasingly concerned not with static equilibrium, but with the transition from one equilibrium to another, with problems in which time is one of the dimensions. If they take counsel together they may move towards an ideal in which no longer will the one look at his facts in the hope of inducing from them a theory, and the other deduce from first principles a theory in the hope that it may be found to fit the facts, but in which the two co-operate so that … the facts and the theory demonstrate each other.[40]

The methodological challenge was clear – economic history had to be set on a scientific basis, yet rigorous analysis that firmly rooted the subject in the use of theoretical and statistical models was still absent.

1.3 The cliometric revolution

The key developments and refinements of economics theory that emerged by the end of the Second World War were fuelled by new approaches to the study of the aggregate economy, and the increasing mathematic formalisation of economic theory. By the 1950s, renewed attention to the subject of modern economic growth (in the context of the reconstruction of Europe and the decolonisation of Africa and Asia), technical change, and the distribution of income led a new generation of economists, particularly in the United States, to explore the long-held assumptions and conclusions associated with the older generation of economic historians. The conclusions of these younger, economics-trained scholars were damning: the quality of early economic history research had been undermined by largely descriptive, illustrative and institutional approaches; quantitative analysis lacking rigour; and little attention had been paid to the application of economic theory to historical data.

It is here that we find the principles that propelled the cliometric revolution (from the Latin: *Clio*, the ancient Greek muse of history; *metrics* meaning measurement), so leading to the social scientific formalisation of economic history between the 1950s and the 1970s. Cliometrics – otherwise known as the 'new economic history' or 'econometric history' – provided an innovative methodology that emphasised (1) a strong focus on the precision and formalism of scientific method in order to elevate the discipline of economic history to a scientific level, (2) the systematic application of mathematically formalised (econometric) models and quantitative techniques to the study of historical economic phenomenon[41], and (3) greater attention to the connection between economic measurement and economic theory, and the better availability of long-run economic data.[42]

The chain of reasoning was derived from a theoretical model, as John Habakkuk noted:

> To put the matter in terms of equations: the elements of the economic system have to be defined; the problem identified; the equations set up; the relations established which

> determine the values of the elements, that is, the problem "solved"; and properties of the solution investigated and assessed.[43]

Belief in the revolutionary potential of these methodological developments, most notably in evaluating and challenging existing historical interpretations, is palpable in the following quotes by three distinguished economic historians – two Americans, the other British – published in the 1960s:

> **Douglas C. North**: A revolution is taking place in economic history in the United States. It is being initiated by a new generation of economic historians who are both sceptical of traditional interpretations of U.S. economic history and convinced that a new economic history must be firmly grounded in sound statistical data. Even a cursory examination of accepted "truths" of U.S. economic history suggests that many of them are inconsistent with elementary economic analysis and have never been subject to – and would not survive – testing with statistical data.[44]

> **Robert Fogel**: [T]he new economic history represents a reunification of economic history with economic theory and this brings to an end a century-old split between these two branches of economics.[45]

> **Samuel Berrick Saul**: Over the last decade a revolution has taken place in American economic history, and a new generation of economic historians has arisen who take a sceptical attitude towards the traditional interpretations and feel that the "new economic history" must be firmly grounded in sound statistical data wherever possible, and make use of new statistical techniques and, above all, bring to bear the tools of theory in an imaginative way.[46]

The speedy acceptance of this new form of economic history (particularly amongst economists) owed much to its focus on mathematical methods and rigorous quantitative techniques. Institutional structures reinforced its distinct character and we can briefly note five important episodes, taking place between 1957 and 1964, which defined the intellectual birth of the movement[47]:

1. A joint meeting of the Economic History Association and the National Bureau of Economic Research conference on income and wealth (covering the histories of the economies of the United States and Canada) held in Massachusetts in the autumn of 1957.[48]
2. The publication of John Meyer and Alfred Conrad's article 'Economic Theory, Statistical Inference and Economic History' (in December 1957) that served as a manifesto for the cliometric revolution.[49]

3. A seminar – entitled 'Quantitative Methods of Economic History' – held at Purdue University in West Lafayette, Indiana in December 1960, which explored the adaptation of theory and statistics to historical analysis.
4. The appointment in 1960 of two young cliometricians, William Parker and Douglass North, as editors of the *Journal of Economic History*.[50]
5. A session on cliometrics held at the annual conference of the American Economic Association in December 1964.

From all of these events emerged the style, tone, and research agenda – primarily related to American economic history – that came to define the 'new economic history' for many years. Founding contributions to cliometrics and the new economic history included: Alfred H. Conrad and John R. Meyer's ground-breaking study of the profitability of slavery in the ante-bellum South[51]; Douglass North's study of the role of exports and regional specialisation in American economic growth[52]; and Robert Fogel's (controversial) use of counterfactual analysis to explore the contribution made by the railways to American economic development in the nineteenth century.[53] Even today, these studies continue to merit the close attention of anyone – social scientist or historian – who is interested in the application of quantitative methods to historical questions.

The overall impact of this new research agenda marked, as William Sewell Jr has noted, 'a move from economic history as the study of the forms of economic life to economic history as the historical study of the determinants of national economic growth.'[54] It was now economic historians trained as economists, utilising statistical techniques and mathematical models, who seized the commanding position in the discipline with their attention focused on investment, technological development, total factor productivity growth, historical national accounts, and long-term patterns of economic change.[55]

1.4 Critique of the new economic history

The 'new economic history' did not merely reproduce the conclusions of previous scholarship. The methods of the new discipline (a systematic body of theory linked with sophisticated quantitative methods) revised many of the established propositions of established historiography, re-evaluated the economic impact of past events, and so yielded important new knowledge regarding America's economic development.[56] Yet it should come as no surprise that this new, quantitative-analytical study of economic history attracted numerous criticisms. By far the most famous example of this came with the publication of Fogel and Engerman's dramatic reinterpretation of the viability of American slavery in *Time on the Cross: The Economics of American Negro Slavery*.[57]



The standard critique of the 'new economic history', which emerged in the 1960s and continues to this day, concentrated on the degree of abstraction applied by cliometricians and the construction of historical narratives that correspond to the conceptual framework of conventional (neo-classical) economics. In other words, the methodological limitations were those imposed by the body of neo-classical economic theory. Early critics – such as Fritz Redlich – argued that this tendency to view history purely through the prism of abstract models raised numerous methodological questions, ranging from the ease by which investigators could select independent variables in order to condition the results of regression analysis through to the dangers inherent in counterfactual propositions.[58] A distinctive feature of the 'new economic history' was the employment of the counterfactual hypothesis method. The basic principle here was simple – in order to establish the impact of a particular factor, it was necessary to consider what the situation would have been in the absence of that factor. Fogel's *Railroads and American Economic Growth* (1964) is worth considering here.[59] One of the main arguments of the book was that the combination of wagon and water transportation could have provided a relatively good substitute for steam railway locomotives.[60] In order to establish this conclusion, and so diminish the generally accepted importance of the railroads within American economic growth, Fogel had to

demonstrate (through elaborate counterfactual calculations) how much the national product of the United States would have been reduced had alternative forms of transportation – wagons, canal boats, and river steamboats – been utilised instead of railways. Such questions could be asked through the use of economic theory, with the specification and criteria of the economic model serving to construct counter-to-fact conditions. Yet the end result, in the eyes of many, was to produced mere 'fictions' rather than detailed historical interpretations. It was recognised that there had to be limits to the reasonableness of counterfactual propositions and hence whether counterfactual analysis constituted genuine historical analysis.[61] As an example of this, the reader is certainly encouraged to consider Fritz Redlich's criticisms of Fogel's use of counterfactual analysis in exploring the impact of the railways on American economic growth.[62]

The extreme application of the new methodology associated with the 'new economic history' led to the emergence of what may best be described as 'historical economics'. This is a variant of economic history as practiced by economics-trained economic historians whose objective is to use history to either illustrate theory or test hypotheses derived from theory. Two views can be identified here. On the one hand, we can see the economics profession demonstrating a greater awareness of cliometric techniques, and the insights to be gained from historical evidence and analysis. Barry Eichengreen has suggested that the growing reliance on historical data for studies connected with economic growth, business cycles, and income inequalities only serves to demonstrate the 'far-reaching implications of the cliometric revolution.'[63] The contrasting view would argue that this formulation of economic history – with its focus on the utilisation of historical time series as a means of testing sophisticated theoretical models – serves as a very poor basis on which to study the economic aspects of human existence. This suggests that 'historical economics' ultimately diminishes the richness of economic history by relegating it to little more than a branch of applied economics.

Another critique that had been levelled against the new economic history can be described as sociological, and rests largely on the role and attitudes of the early practitioners of the 'new economic history'. Whilst there are opportunities to celebrate the achievements of the early cliometricians in

signalling a methodological revolution and challenging existing historical interpretations, it is hard to ignore their role in the creation of an academic environment antipathetic to this particular model of economic history. Upon securing the necessary critical mass within mainstream research, the members of the cliometric community quickly 'engaged in a proselytizing mission' that saw them 'reacting – some would say overreacting – to the dominantly descriptive and institutional approach of earlier scholarship.'[64] Some of this alienation can be attributed to the conduct of this group of innovators who, in seeking to reinterpret established historical viewpoints, became 'bedazzled by their own technical abilities' and subjected their critics to a barrage of 'unfamiliar formulae, bewildering jargon, and esoteric mathematics.'[65] Put simply, the early cliometricians (in the 1960s and 1970s) oversold their new methodology by reinterpreting established interpretations through a blinding barrage of esoteric economic and quantitative methods.

1.5 New institutional economic history



From the 1970s onwards, criticism and dissatisfaction from within the ranks of scholars associated with the 'new economic history' began to suggest a new way forward. Here the criticism was that while the systematic application of static neoclassical analysis had destroyed the explanations of an older generation of economic historians, it provided limited answers and failed to construct clearer explanations of long-run economic change. To quote Douglass C. North:

> It is the systematic use of standard neo-classical economic theory which has both provided the incisive new insights into man's economic past and also serves to limit the range of enquiry.[66]

While the cliometric method offered satisfactory explanations of historical economic development in the Western world, it found itself wholly unable to explain why similar developments did not emerge elsewhere or the problems experienced by later countries undergoing economic development. It was the eventual recognition of the limitations of the new economic history that provoked a number of cliometricians – including Douglass North – to emphasise the historical importance of the institutional background and cultural heritage.

There was now the realisation for the need to provide a deeper examination of the structure of economies, the intricate interactions of economic and social forces, and the formal and informal rules that governed the ways people had lived their lives. In searching for balance, economic historians were therefore prompted to construct a broader analytical approach in order to evaluate the importance of factors such as entrepreneurship, cultural heritage, the evolution and impact of institutions, property rights, contract law, and government. An important step in the efforts to explore the role of institutions, and so test the limits of neo-classical theory, came with North and Davis's book, *Institutional Change and American Economic Growth.*[67] The fundamental details from this work demonstrated that an understanding of economic growth requires 'an understanding not only of neo-classical factors, but also of the

complementary evolution of politics and laws that allows the underpinning of economics forms which produce growth.'[68]

It was recognised that the study of economic history could not be practiced by rigid adherence to a methodological apparatus focused purely on quantitative techniques and standard economic analysis. Yet a more holistic form of the discipline – operating through a renewed framework that embedded economic development in the social, cultural, and political environment – clearly echoed themes that had been prominent within traditional economic history before being systematically ignored in the wake of the cliometric revolution. It was that move to enrich the study of economic history from the 1980s onwards, through the reintegration of a more traditional historical methodology, which has led one critic to identify the rise of cliometric economic history as, ultimately, a 'revolution that bit its own tail'.[69]

1.6 The sources of economic history

Thus far, this chapter has concentrated on the history and methodology of economic history, and particularly the social scientific formalisation of the discipline that occurred in the mid-twentieth century. Yet this only represents one part of the tools of the economic historians' trade. Given the theme of this particular book, we now need to briefly consider the sources available for the study of economic history. Subsequent chapters will explore in more depth the different types of sources that are of interest to both the economically minded/interested historian and the economist interested in history. As an introduction to all of this, we can begin by quoting the distinguished Italian economic historian, Carlo Cipolla::

> Any attempt to produce a reasonably complete survey of the sources of economic history is hampered not only by the mammoth scale of the task, but above all by the fact that material of interest to the economic historian is to be found scattered over a wide range of documents.[70]

The range of topics covered by economic historians is vast (e.g. population, agriculture, industry, currency, finance, banking, transport, commerce, to name but a few), and the range of surviving original materials they draw upon to construct their interpretations of the past is equally vast. There are also numerous methodology and practical issues that the economic historian needs to consider in order to understand and evaluate such historical sources. These issues would include: (1) the character and provenance of surviving sources (how was the data collected? by whom was the collection carried out?), (2) issues around the reliability and consistency of sources (possible issues arising from inefficient compilation or bias; numerical data which are incomplete are unsuitably categorised)[71], (3) difficulties attached to the use of sources, and (4) the possible transformation that the source has to undergo in order to generate a quantitative fact that could be interpreted in light of modern economic theory.

Some obvious examples of sources utilised by economic historians would include legislative documents, government reports, census returns, labour statistics, tax revenues, customs registers, and business records.[72] Literary sources have obvious uses for cultural historians, and should not be ignored by economic historians. Consider, for example, Alexander Gerschenkron's

views about the study of Soviet novels, and the insights these provided into the imperfections of Soviet industrialisation[73]; details of living conditions during the nineteenth century as presented in such classic texts as Charles Dickens' *Hard Times* (1854) and Elizabeth Gaskell's *North and South* (1855)[74]; the use of various contemporary printed courses, such as pamphlet materials, to the study of eighteenth century economic history[75]; and the wide importance attached to various journals devoted to commercial, financial and economic news.[76] Yet it should come as no surprise that economic historians often (but not exclusively) refer to statistical sources, many of which are the by-products of administrative activities of public and private agencies. In the twentieth century, the growth of such statistical sources was closely related to the growth of economic knowledge and techniques, most famously seen in the growth of nation income estimates after the Second World War. The application of such new macroeconomic tools meant that, for the first time, it was possible to present the quantitative story of Britain's economic development. The latter half of the latter half of the twentieth century witnessed the publication of several important (pioneering) studies included Deane and Cole's *British Economic Growth, 1688–1959* (1962), Mitchell and Deane's *Abstract of British Historical Statistics* (1962), Mitchell and Jones's, *Second Abstract of British Historical Statistics*, and Feinstein's *National Income, Expenditure and Output of the United Kingdom, 1856–1965* (1972).[77]

Below are two short examples, both drawn from the study of eighteenth- and nineteenth-century British economic and social history, that illustrate the different sources and techniques employed by historians:

Example 1: The Industrial Revolution

The modern historiographical debate surrounding the 'Industrial Revolution' is divided between 'quantitative' accounts, which draw heavily on statistical sources and neo-classical economic theory and 'qualitative' accounts, based on broad-based conceptions of economic change.[78] The most famous proponent of the 'quantitative' approach is Nick Crafts, whose re-estimated economic growth rates for eighteenth-century Britain (based

on growth accounting methods) cast doubt on the depictions of the industrial revolution as a period of rapid change.[79] A revisionist account, famously articulated by Maxine Berg and Pat Hudson, argues that growth accounting techniques cannot serve as a suitable starting point for the analysis of economic and social change, since the measurement of growth through such methods is prone to significant errors arising from (a) the incomplete nature of the data available (large areas of economic activity in the eighteenth-century have left no available sources of quantitative data), and (b) assumptions embodied in the analysis and limitations surrounding the methodology. For Berg and Hudson, the Industrial Revolution was a significant discontinuity in British economic history, and a 'rehabilitation' of the topic requires a move away from a macro-accounting framework to consider wider economic and social change including regional performance and class-consciousness.[80]

Example 2: The standard of living debate

The standard of living debate – reflecting 'optimistic' and 'pessimistic' interpretations of the social effects of industrialisation – demonstrates, perhaps more than any other issue in economic and social history, the difficulties encountered in trying to generalise from complex and diverse forms of evidence. Much of this historical debate, especially up to the mid-twentieth century, revolved around different (not to mention contradictory) types of evidence, and at one time was driven by competing (often politically motivated) views about the nature of industrial capitalism.[81] Efforts by economic historians to measure movements in living standards during the Industrial Revolution have broadly fallen into two groups:

1. Economic indicators of material living standards, usually represented by trends in real wages or the incomes of workers. Although presented as a viable method, there has to be an appreciation of the limitations associated with the use of wage rates to evaluate living standards; real wages for instance serve as narrow indicators of the standard of living, and there are problems with the use of wholesale price indices rather than retail price indices when trying to calculate real wage trends.[82]

2. Biological indicators, covering life expectancy at birth, infant mortality and, more innovatively, the use of body measurements and nutritional status. This latter interpretive approach, using height as an indicator of historical living standards (changes in the average height of the population serves as an indicator of changes in nutritional status), represents the concept of anthropometric history. This method was seen to move the debate away from concerns about the nature of price data and wage data. However, the magnitude of observed changes has been too small to provide any meaningful conclusion that height and nutrition serve as comprehensive indicators of the biological standard of living.[83]

Many of the sources utilised by economic historians were never collected for the purposes of historical analysis. Efforts have therefore been made – often through innovative techniques (as illustrated by anthropometric indicators) – to make the best use of the data available.

1.7 The current position of economic history

In considering the current position of economic history, there are two themes that I believe need to be addressed:

Economic history: Research agenda

Where does economic history stand today? The rejection of economic determinism associated with Marxist as well as Cliometric analysis, the compartmentalisation of history into sub-disciplines focusing on specific themes and case studies, and the impetus of the 'cultural turn' that emphasised literary and linguistic analysis over quantitative analysis has clearly made some historians (and students) antipathetic to the study of economic history. From the perspective of the modern (cultural) historian – who is increasingly focused on topics such as gender, identity, consciousness, and public memory – the broad study of economic history can be ignored for employing an inappropriate, narrow methodological framework that, through its emphasis on statistics and quantification, strips humanity of the historical narrative. Irrespective of the fact that economic history has moved beyond the strict methodological principle associated with the 'new economic history' (and so focusing on the relations between past economic events, institutions, social structures, and cultural change), the subject – indeed, it could be argued, anything connected with economic issues! – remains tainted in the eyes of some historians.

Yet there is no question that economic history remains a rich and active field of investigation, and it cannot be denied that the twenty-first century form of the discipline encompasses a variety of methodological approaches. While it is impossible to predict the future direction of research programmes, it is evident that current practitioners are consciously working to strike a balance between formal theory (drawn from disciplines across the social sciences, and not just economics), quantitative methods, and historical techniques. Economic history is still concerned with the history of economic development across medieval, early modern and modern time periods, offering detailed case studies of different sectors and processes,

including agriculture, demographic change, transport and communications, labour markets, education, and urbanisation. However, the geographic range of current research now extends beyond the traditional areas of North America and Western Europe and so is represented by:

- the expansion in the study of comparative economic history, especially the study of the 'divergence debate' and, by extension, the growth of Asia, Africa and Latin America as major areas of research[84]
- the study of national economies/societies within the wider framework of global economic development and debates surrounding economic globalisation
- quantitative analysis of the relationship between economic development, living standards, and biological well-being
- debates connecting economic growth with environmental degradation (and hence the growing attention to environmental history)

We can also note here recent work exploring the 'new' history of industrial capitalism,[85] and growing interest in the popular understanding of economic ideas/policies.[86] Even the most cursory examination of the above topics will show that the modern focus of economic history is definitely *not* concerned with the simplistic application of econometric methods to historical data![87]

Economic history: Teaching agenda

The above discussion has focused exclusively on the disciplinary nature and activity of economic history, together with the range of scholarship and research agendas that economic historians continue to engage with. Yet this (research) agenda pays no attention to the purpose and practice of *teaching* economic history.[88] This state of affairs is hardly surprising, for as Alan Booth commented in connection with the wider relationship between teaching and research:

> [T]he notion of scholarship has become reserved almost exclusively for research, and for research of a particular kind – that associated with the discovery of knowledge … [T]eaching has been relegated to the status of a secondary and derivative activity.[89]

There is no space available here to deal in detail with the wider pedagogical aspects of teaching economic history. Such a work remains to be written.[90] What is presented here must serve as mere notes on key themes around these teaching/pedagogical issues. Consider the following points:

- Economic history forces economists to (a) appreciate the problem of historical specificity, the limitations of economic theory, and the interaction of economic behaviour and other social institutions[91], and (b) recognise discontinuities in economic performance and economic policy regimes that have occurred in the past, and which may occur again in the future.[92] And yet the development of economics theory and economic history in the twentieth century (particularly after the Second World War) followed separate paths: on the one hand, the application of formal economic models within economics history led to the 'cliometric revolution'; on the other we see the creation of an ahistorical vision of economics. Paul Samuelson's *Foundations of Economic Analysis* (1947), a famous treatise in mathematical economic theory, set the tone for much of what mainstream economics would do for decades to come.[93] This is, of course, a large topic, yet its main issues are clear: too few economists have, over recent decades, received real instruction in economic history as part of their undergraduate/graduate training. Such training could have relevance for the understanding of contemporary affairs. The classic example here would be the global financial crisis/credit crunch of 2007–2008, and the parallels that could be drawn with the Great Depression of the 1930s.[94] These issues have in turn raised discussions in recent years about the teaching of economics, and the position of economic/financial history within a revised economics curriculum. To quote Harold James on this point: 'A new sensitivity to the significance of historical experience has developed since the 2007 financial crisis.'[95]
- Moving beyond the specifics of economic history within the training of economists, I would also argue that the study of economic history has the clear potential to enrich the understanding of students, drawn from a wide range of subjects/disciplines, concerning key political, social, economic, and environmental issues. Obvious examples here

> include the challenges of modern society and contemporary debates about globalisation. Changes in the structure of the global economy and global workplace, coupled with growing concerns around global consciousness and sustainability, highlight the key skills required by graduates in the twenty-first century.[96] These skills include, amongst other things, independent thought, critical thinking and interpretation, communication skills, and competency in analysing and evaluating information and data – both qualitative and quantitative – from a variety of sources.[97] The importance attached to such skills should enable economic historians to highlight the distinct nature of their subject, and the potential it offers in fostering greater statistical/numerical skills amongst students.[98] Furthermore, and focusing specifically on the content of this particular volume, source evaluation skills are closely linked with interpretation and analysis, and wider critical issues associated with authority, reliability and accuracy.

From these points, we can see two issues – (1) the ways in which academics and teachers need to respond to demands for economic history within a new economics curriculum, and (2) how the broader teaching of economic history – especially the important analytical and discursive skills that it promotes – fits with the learning needs of twenty-first century students, and the development of engaged, active citizenship. The main point I wish to make here is simply this: in addition to defining the research agenda(s) of their discipline, economic historians in the twentieth-first century must give (some) attention to the methods and practices connected with the teaching of their discipline.

1.8 Concluding comments

To the very best of my knowledge, this chapter has said nothing new concerning the study of economic history. I have not sought to engage with specific historiographical/research topics, but rather to provide an impression, in admittedly fairly broad brushstrokes, covering the methodological development of economic history from the mid-twentieth century onwards, and the current status of economic history within both research and teaching environments. In drawing these themes together, I would like to end by briefly returning to a theme noted in the introduction, namely the human dimension of economic history. Economic activity is human activity, and it is this core principle that, as Patrick O'Brien has highlighted, makes economic history 'too fundamental to be virtually ignored by historians and too complex to be left to economists with their shortcuts into cross-country multiple-regression.'[99] Similar themes are reflected in comments by Pat Hudson, who has argued that economic historians today are presented with opportunities to 'critique the narrow purview of much contemporary economic theory' as well as 'ambush the many cultural historians who appear to have forgotten what the economy is.'[100] The great opportunities available to economic historians – in terms of both research and teaching – stem from the position of the discipline between the cultures of the social sciences and the humanities, and hence the continuing importance their contributions can make to the study of economic life.

Notes

1 Some of the themes in this chapter draw on ideas originally presented in a paper – entitled 'What is the Future for Economic History?' – delivered at the Conference on Modern British History held at the University of Dundee (June 2011). This was followed by several stimulating discussions at a one-day Higher Education Academy conference, 'Promoting Engagement with the Teaching of Economic History', held at Oxford Brookes University (March 2012), and a special roundtable session, 'Reforming Teaching in Economic History' held at the 14th Annual Higher Education Academy Teaching and Learning Conference in London (September 2012). Themes discussed in this chapter also draw on material covered in an undergraduate module – ECON10212/ECON20212: Economic History – that I developed

and taught, in collaboration with Ed Manderson, Matthew McCaffrey and Diane Coyle, at the University of Manchester in 2018 and 2019.

2 Eli F. Heckscher, 'Quantitative Measurement in Economic History', *Quarterly Journal of Economic History*, 53 (1939): 167–168. Heckscher's definition of *economic history*, presented in 1939, clearly has parallels with the more famous definition of *economics* provided by Lionel Robbins in 1935 – '(Economics is) the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses', Lionel Robbins, *An Essay on the Nature and Significance of Economic Science* (London: Macmillan and Co, 1935), p. 16. For a discussion of Heckscher's contributions to the study of economic history, see Ylva Hasselberg, 'Networks and Scientific Integrity: Eli Heckscher and the Construction of Economic History in Sweden, 1920–1950', *Scandinavian Economic History Review*, 54 (2006): 273–290.

3 On the latter, see, for example, Eric L. Jones, *Cultures Merging: A Historical and Economic Critique of Culture*, new ed. (Princeton: Princeton University Press, 2016); Joel Mokyr, *A Culture of Growth: The Origins of the Modern Economy* (Princeton: Princeton University Press, 2017); and Deepak Lal, *Unintended Consequences: The Impact of Factor Endowments, Culture, and Politics on Long Run Economic Performance* (Cambridge, Massachusetts: MIT Press, 2001).

4 N. S. B. Gras, 'The Rise and Development of Economic History', *Economic History Review*, 1 (first series) (1927): 12–34. In terms of the story of the development of economic history in Britain, Gras's article can profitably be read in conjunction with Negley Harte, *The Study of Economic History: Collected Inaugural Lectures, 1893–1970* (London: Cass, 1971); Donald Coleman, *History and the Economic Past: An Account of the Rise and Decline of Economic History in Britain* (Oxford: Oxford University Press, 1987); Pat Hudson (ed.), *Living Economic and Social History* (Economic History Society, 2001); Martin Daunton, 'Cambridge and Economic History' in Robert A. Cord (ed.), *The Palgrave Companion to Cambridge Economics – Volume 1* (Basingstoke: Palgrave Macmillan, 2016), pp. 157–186; and Colin M. Lewis, 'Economic History at the London School of Economics and Political Science: A View from the Periphery' in Robert A. Cord (ed.), *The Palgrave Companion to LSE Economics* (Basingstoke: Palgrave Macmillan, 2019), pp. 35–77. For the story of the development of economic history in the United States of America, see A. W. Coats, 'Disciplinary Self-Examination, Departments, and Research Traditions in Economic History: The Anglo-American Story', *Scandinavian Economic History Review*, 38 (1990): 3–18; John S. Lyons, Louis P. Cain and Samuel H. Williamson (eds.), *Reflections on the Cliometric Revolution: Conversations with Economic Historians* (London: Routledge, 2008); David Mitch, 'Chicago and economic history' in Ross B. Emmett (ed.), *The Elgar Companion to the Chicago School of Economics* (Cheltenham: Edward Elgar, 2010), pp. 114–127; David Mitch, 'Economic History in Departments of Economics: The Case of the University of Chicago, 1892 to the Present', *Social Science History*, 35 (2011): 237–271; and Cristel De Rouvray, '"Old" Economic History in the United States, 1939–1954', *Journal of the History of Economic Thought*, 26 (2004): 221–239. Readers interested in the global development of economic history as an academic discipline are encouraged to consult Pat Hudson and Francesco Boldizzoni (eds.), *Routledge Handbook of Global Economic History* (Routledge, 2015).

5 Witold Kula, *The Problems and Methods of Economic History*, translated by Richard Szreter (Farnham: Ashgate, 2001).

6 Carlo M. Cipolla, *Between History and Economics: An Introduction to Economic History*, translated by Christopher Woodall (Oxford: Basil Blackwell, 1991).

7 David Greasley and Les Oxley (eds.), *Economic and History: Surveys in Cliometrics* (Oxford: Wiley-Blackwell, 2011). For an earlier discussion of the relationship between economic theory and economic history, see Donald N. McCloskey, *Econometric History* (London: Macmillan, 1987). See also Robert Whaples and Randall E. Parker (eds.), *Routledge Handbook of Modern Economic History* (London: Routledge, 2013).

8 Francesco Boldizzoni, *The Poverty of Clio: Resurrecting Economic History* (Princeton: Princeton University Press, 2011). Another highly recommended book on the cliometric revolution is J. W. Drukker, *The Revolution That Bit Its Own Tail: How Economic History Changed Our Ideas on Economic Growth* (Amsterdam: Aksant Academic Publishers, 2006).

9 Matthias Blum and Christopher L. Colvin (eds.), *An Economist's Guide to Economic History* (Basingstoke: Palgrave, 2018). It is useful to consider this book in relation to earlier comments by the distinguished British economic historian, Nick Crafts: 'In considering the relationship between economic and history it is important to look not just at the use of economics and econometrics in history but also at the place of history in the training and consciousness of economists.' N. F. R. Crafts, 'Economics and History' in David Greenway *et al.* (eds.), *Companion to Contemporary Economic Thought* (London: Routledge, 1991), p. 812.

10 Connected with this, see W. L. Westermann, 'On the Sources and Methods of Research in Economic History', *Political Science Quarterly*, 37 (1922): 69–74.

11 Sir John Chapman, 'Economic History as a Discipline', *Encyclopaedia of the Social Sciences* – Volume 5 (New York: Macmillan, 1930), p. 327.

12 T. S. Ashton, 'The Relation of Economic History to Economic Theory', *Economica* 13 (1946): 82.

13 Johan Myhrman and Barry R. Weingast, 'Douglass C. North's Contributions to Economics and Economic History', *Scandinavian Journal of Economics*, 96 (1994): 186.

14 Robert William Fogel, *The Slavery Debates, 1952–1990: A Retrospective* (Baton Rouge: Louisiana State University Press, 2003), p. 25.

15 We should of course recognise that Fogel and North were not the first recipients of the Nobel Prize in economics to engage with economic history. Consider, for example, Milton Friedman's contributions to the study of monetary history, W. Arthur Lewis's research into the problems of economic development, and Simon Kuznets's empirically founded interpretation of economic growth. Claudia Goldin, 'Cliometrics and the Nobel', *Journal of Economic Perspectives*, 9 (1995): 192.

16 N. S. B. Gras, 'The Rise and Development of Economic History', *Economic History Review*, 1 (first series), (1927): 13.

17 Ibid., 14–18.

18 For discussion of this topic, see Kwangsu Kim's 'Adam Smith's Theory of Economic History and Economic Development', *European Journal of the History of Economic Thought*, 16 (2009): 41–64.

19 George Unwin, 'The Aims of Economic History' in R. H. Tawney (ed.), *Studies in Economic History: The Collected Papers of George Unwin* (London: Cass, 1966), p. 18. The economic history elements of Smith's work have also been emphasised by Hugh Rockoff: 'A look at Adam Smith's *Wealth of Nations* … reveals a document replete with historical essays on a remarkable range of topics – the Royal African Company, Smith's famous "Digression Concerning the Variations in the Value of Silver during the Course of the Last Four Centuries", the poor laws, even religious education – to select a few.' Hugh Rockoff, 'History and Economics' in Eric H. Monkkonen (ed.), *Engaging the Past: The Uses of History across the Social Sciences* (Durham: Duke University Press, 1994), pp. 49–50.

20 We should note here in passing, of course, that Adam Smith was a moral philosopher not a political economist.

21 The critique of classical economic in Britain – particularly the work of David Ricardo – was not exclusive to the German historical school in the late nineteenth century. See, for example, Arnold Toynbee's critique of the reckless abstraction of some classical economics. Arnold Toynbee, *Lectures on the Industrial Revolution in England* (London: Rivingtons, 1884), p. 21.

22 The fundamental principles of the older historical school can be traced to Roscher's *Grundriss zu Vorlesungen über die Staatswirtschaft nach geschichtlicher Methode* (*Outline of Lectures on Political Economy According to the Historical Method*) published in 1843.

23 For further details of the German historical schools, see Keith Tribe, *Strategies of Economic Order: German Economic Discourse, 1750–1950* (Cambridge: Cambridge University Press, 1995), pp. 66–94 and Peter R. Senn, 'The German Historical Schools in the History of Economic Thought,' *Journal of Economic Studies*, 32 (2005): 185–255.

24 Wilhelm Roscher, *Principles of Political Economy*, translated by J. J. Lalor (New York: H. Holt & Co, 1878), p. 84.

25 For further discussion of this methodological controversy, see Marek Louzek, 'The Battle of Methods in Economics. The Classical *Methodenstreit* – Menger vs. Schmoller', *American Journal of Economics and Sociology*, 70 (2011): 439–463.

26 Eli F. Heckscher, 'A Plea for Theory in Economic History' in Frederic C. Land and Jelle C. Riemersma (eds.), *Enterprise and Secular Change: Readings in Economic History* (London: George Allen & Unwin Ltd, 1953), p. 421.

27 Lionel Robbins, *A History of Economic Thought: The LSE Lectures* (edited by Steven G. Medema and Warren J. Samuels), (Princeton: Princeton University Press, 2000), p. 250.

28 Readers interested in the wider influence of the German Historical School, and particularly the interconnection between nineteenth-century economic thought and economic policy, are encouraged to consult José Luís Cardoso and Michais Psalidopoulos (eds.), *The German Historical School and European Economic Thought* (London: Routledge, 2016).

29 Robert William Fogel, 'The Reunification of Economic History and Economic Theory', *American Economic Review*, 55 (1965): 94. This theme is echoed by Kula: '[A]lthough normally constituting a chapter in the history of political economy, it [the German historical school] belongs, in fact, far more to economic history, and such merit as it possesses in the evolution of learning pertains to the latter discipline.' Witold Kula, *The Problems and Methods of Economic History*, translated by Richard Szreter (Farnham: Ashgate, 2001), p. 9.

30 Ashley occupied the first chair of economic history in the world, created at Harvard in 1891.

31 Robert William Fogel, 'The Reunification of Economic History and Economic Theory', *American Economic Review*, 55 (1965): 94.

32 The most famous statement of this relationship between economics and economic history can be found in William J. Ashley, 'On the Study of Economic History', *Quarterly Journal of Economics*, 7 (1893): 115–136.

33 For a useful biographical essay on Clapham, see Peter Groenewegen, 'John Harold Clapham (1873–1946): A Marshallian Cambridge Economic Historian?' in *The Minor Marshallians and Alfred Marshall: An Evaluation* (London: Routledge, 2011), pp. 68–81. Groenewegen's chapter contains an amusing error. Clapham was born in Broughton, Salford, in Lancashire in 1873. Groenewegen records that Clapham's early schooling began 'near his home at Prestwick.' This is incorrect: the name of the place should read *Preswich*, a suburban town in Greater Manchester approximately 5 km north of Salford. Prestwick is a town on the west coast of Ayrshire in Scotland, approximately 350 km from Salford!

34 Abbott Payson Usher, ‘The Application of the Quantitative Method to Economic History’, *Journal of Political Economy*, 40 (1932): 186; Abbott Payson Usher, ‘Sir John Howard Clapham and the Empirical Reaction in Economic History’, *Journal of Economic History*, 11 (1951): 149.

35 John Clapham, *An Economic History of Modern Britain – Volume 1* (Cambridge: Cambridge University Press, 1926), p. viii.

36 Herbert Heaton, ‘Clapham’s Contribution to Economic History’, *Political Science Quarterly*, 53 (1938): 601.

37 John Clapham, *An Economic History of Modern Britain – Volume 1* (Cambridge: Cambridge University Press, 1926), p. 131.

38 Abbott Payson Usher, ‘The Application of the Quantitative Method to Economic History’, *Journal of Political Economy*, 40 (1932): 209.

39 Eli F. Heckscher, ‘Quantitative Measurement in Economic History’, *Quarterly Journal of Economic History*, 53 (1939): 193.

40 T. S. Ashton, ‘The Relation of Economic History to Economic Theory’, *Economica*, 13 (1946): 94.

41 To quote from Robert Fogel on this point: ‘mathematical technique of analysis can reduce the amount of information required to evaluate a given hypothesis.’ Robert W. Fogel, *Railroads and American Economic Growth: Essays in Econometric History* (Baltimore: John Hopkins University Press, 1964), p. 26.

42 On this latter point, see Simon Kuznets ‘Statistics and Economic History’, *Journal of Economic History*, 1 (1941): 26–41.

43 John Habakkuk, ‘Economic History and Economic Theory’, *Daedalus*, 100 (1971): 309.

44 Douglass C. North, ‘Quantitative Research in American Economic History’, *American Economic Review*, 53 (1963): 128–129.

45 Robert William Fogel, ‘The Reunification of Economic History with Economic Theory’, *American Economic Review*, 55 (1965): 94.

46 S. B. Saul, ‘The New Economic History’, *British Association for American Sciences Bulletin*, 11 (1965): 24.

47 A. W. Coats, ‘The Historical Context of the “New” Economic History’, *Journal of Economic History*, 9 (1980): 185–207.

48 It could also be argued that the roots of the cliometric revolution can be traced to the early 1920s, beginning with investigations by the National Bureau of Economic Research (NBER) into the size, composition, and distribution of US national income.

49 John R. Meyer and Alfred H. Conrad, ‘Economic Theory, Statistical Inference, and Economic History’, *Journal of Economic History*, 17 (1957): 524–544. It is worth noting here that Meyer and Conrad were primarily econometricians – Meyer specialised in investment theory and urban economics, and Conrad in fiscal policy.

50 In the early 1950s, less than 2 per cent of the pages in the *Journal of Economic History* were devoted to cliometric articles. By the early 1970s, this had increased to 78 per cent. Robert Whaples, ‘A Quantitative History of the Journal of Economic History and the Cliometric Revolution’, *Journal of Economic History*, 51 (1991): 289–301.

51 Alfred H. Conrad and John R. Meyer, ‘The Economics of Slavery in the Ante Bellum South’, *Journal of Political Economy*, 66 (1958): 95–130.

52 Douglass C. North, *The Economic Growth of the United States, 1790–1860* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1961).

53 Robert William Fogel, *Railroads and American Economic Growth: Essays in Econometric History* (Baltimore: John Hopkins University Press, 1964). This book was a revised version of

Fogel's PhD dissertation in economics at John Hopkins University. The key arguments from Fogel's book had also appeared in a journal article two years earlier – Robert William Fogel, 'A Quantitative Approach to the Study of Railroads in American Economic Growth: A Report of Some Preliminary Findings', *Journal of Economic History*, 22 (1962): 163–197.

54 W. H. Sewell, 'A Strange Career: The Historical Study of Economic Life', *History and Theory*, 49 (2010): 152.

55 For an assessment of the main contributions of cliometrics, see Angela Milena Rojas, 'Cliometrics: A Market Account of a Scientific Community, 1957 – 2006', Lecturas de Economía, 66 (2007): 47–82.

56 Robert William Fogel, 'The New Economic History – Its Findings and Methods', *Economic History Review*, 19 (new series) (1966): 642–656; Douglass C. North 'Cliometrics – 40 Years Later', *American Economics Review*, 87 (1997): 412.

57 Robert William Fogel and Stanley Engerman, *Time on the Cross: The Economics of American Negro Slavery* (Boston, Mass: Little, Brown & Co, 1974). For a discussion about the impact of Fogel and Engerman's controversial work, see Charles Crowe, 'Time on the Cross: The Historical Monograph as a Pop Event', *History Teacher*, 9 (1976): 588–630.

58 The view that mathematical models were of limited use in economic history was later addressed by Fogel: 'I do not mean to suggest that every issue in economic history lends itself to mathematical methods, nor that all issues which in principle lend themselves to mathematical models can in fact be dealt with adequately. Some historical questions involve relationships that go beyond the set currently covered by mathematics. In other cases the equation system required to describe a given reality may be insoluble. Or it may be that, although one can define a model and solve it, the data required to estimate the parameters of the model are not available.' Robert William Fogel, 'Historiography and Retrospective Econometrics', *History and Theory*, 9 (1970): 246–247.

59 For a fascinating rhetorical analysis of Fogel's book, see Donald N. McCloskey, 'The Problem of Audience in Historical Economics: Rhetorical Thoughts in a Text by Robert Fogel', *History and Theory*, 24 (1985): 1–22.

60 Robert William Fogel, *Railroads and American Economic Growth: Essays in Econometric History* (Baltimore: John Hopkins University Press, 1964), p. 219.

61 William G. Whitney, 'The New Economic History: Recent Papers on Methodology', *Journal of Economic History*, 30 (1970): 868.

62 Fritz Redlich, '"New" and Traditional Approaches to Economic History and their Interdependence', *Journal of Economic History*, 25 (1965): 480–495.

63 Barry Eichengreen, 'The Contributions of Robert W. Fogel to Economics and Economic History', *Scandinavia Journal of Economics*, 96 (1994): 177.

64 John S. Lyons, Louis P. Cain and Samuel H. Williamson, 'Introduction: economic history and cliometrics' in John S. Lyons, Louis P. Cain and Samuel H. Williamson (eds.), *Reflections on the Cliometric Revolution: Conversations with Economic Historians* (London: Routledge, 2008), p. 17.

65 Ibid., p. 21.

66 Douglass C. North, 'Beyond the New Economic History', *Journal of Economic History*, 34 (1974): 1.

67 Douglass C. North and Lance E. Davis, *Institutional Change and American Economic Growth* (Cambridge: Cambridge University Press, 1971).

68 Johan Myhrman and Barry R. Weingast, 'Douglass C. North's Contributions to Economics and Economic History', *Scandinavian Journal of Economics*, 96 (1994): 188.

69 J. W. Drukker, *The Revolution That Bit Its Own Tail. How Economic History Changed Our Ideas on Economic Growth* (Amsterdam: Aksant Academic Publishers, 2006).

70 Carlo M. Cipolla, *Between History and Economics: An Introduction to Economic History*, translated by Christopher Woodall (Oxford: Basil Blackwell, 1991), p. 79.

71 An excellent example of this point can be seen in the persistent problems associated with the use of Soviet economic and social data. See S. G. Wheatcroft and R. W. Davies, 'The Crooked Mirror of Soviet Economic Statistics' in R. W. Davies, M. Harrison, and S. G. Wheatcroft (eds.), *The Economic Transformation of the Soviet Union, 1913–1945* (Cambridge: Cambridge University Press, 1994), pp. 24–37.

72 For some classic examples of the range of source materials available, see E. Lipson, 'The Sources Available for the Study of Medieval Economic History', *Transactions of the Royal Historical Society*, 10 (1916): 115–158; T. D. Clark, 'Records of Little Businesses as Sources of Social and Economic History', *Bulletin of the Business Historical Society*, 19 (1945): 151–58; H. S. Cobb, 'Sources for Economic History amongst the Parliamentary Records in the House of Lords Record Office', *Economic History Review*, 19 (new series) (1966): 154–174.

73 Alexander Gerschenkron, *Economic Backwardness in Historical Perspective* (Cambridge: Belknap Press of Harvard University Press, 1968).

74 In a similar vein, the work of Mark Twain serves as a useful means of exploring issues around slavery, class, money, and economic expansion in the nineteenth-century America. See, for example, John J. Van Belle, 'Mark Twain: Economic Historian', *Challenge*, 19 (1976): 55–57 and Ranjit S. Dighe, *The Historian's Huck Finn: Reading Mark Twain's Masterpiece as Social and Economic History* (Santa Barbara: Praeger, 2016). In relation to Irish economic/social history, see Cormac Ó Gráda, 'Literary Sources and Irish Economic History', *Studies: An Irish Quarterly Review*, 80 (1991): 290–299.

75 Henry Higgs, *Bibliography of Economics, 1751–1775* (Cambridge: Cambridge University Press: 1935); L. W. Hanson (ed.), *Contemporary Printed Sources for British Irish Economic History, 1701–1750* (Cambridge: Cambridge University Press, 1963).

76 See, for example, John Clapham, '*The Economist* as a Source for the Historian' in *The Economist, 1843–1943: A Centenary Volume* (Oxford: Oxford University Press, 1943), pp. 36–48. Consider also the following quote from the American economic historian, Walt Whitman Rostow: 'To the economic historian the unique position of the *Economist* in the lore of nineteenth-century Britain consists not only in the special information it contains, information often inaccessible elsewhere, but also in the fact that it surveys systematically, week by week, the changing aspects of a whole economy.' Walt Whitman Rostow, *British Economy in the Nineteenth Century* (Oxford: Oxford University Press, 1949), p. 161.

77 Phyllis M. Deane and W. A. Cole, *British Economic Growth, 1688–1959: Trends and Structure* (Cambridge: Cambridge University Press, 1962); Brian Mitchell and Phyllis Deane, *Abstract of British Historical Statistics* (Cambridge: Cambridge University Press, 1962); Brian Mitchell and H. G. Jones, *Second Abstract of British Historical Statistics* (Cambridge: Cambridge University Press, 1971); Charles H Feinstein, *National Income, Expenditure and Output of the United Kingdom, 1855–1965* (Cambridge: Cambridge University Press, 1972). For a discussion of plans to update these statistical collections, see Roger Middleton, 'Historical Statistics and British Economic History: The British Historical Statistics Project (BHSP)', *Historical Methods: A Journal of Quantitative and Interdisciplinary History*, 45 (2012): 103–118.

78 For an introduction to the historiography of the industrial revolution, see David Cannadine, 'The Present and the Past in the English Industrial Revolution, 1880–1980', *Past and Present*, 103 (1984): 131–172; Anthony Howe, 'State Versus Market in the Early Historiography of the

Industrial Revolution in Britain, c.1890–1914', *European Journal of the History of Economic Thought*, 23 (2006): 897–918; and Michael Haupert, 'A Brief History of Cliometrics and the Evolving View of the Industrial Revolution', *European Journal of the History of Economic Thought*, 26 (2019): 738–774.

79 Nicholas F. R. Crafts, *British Economic Growth during the Industrial Revolution* (Oxford: Oxford University Press, 1985); Nicholas F. R. Crafts, 'British Economic Growth, 1700–1850: Some Difficulties of Interpretation', *Explorations in Economic History*, 24 (1987): 245–268.

80 Maxine Berg and Pat Hudson, 'Rehabilitating the Industrial Revolution', *Economic History Review*, 45 (new series) (1992): 24–50.

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Economics (Cheltenham: Edward Elgar Publishing, 2011), pp. 525–532; and Judge Glock, Joshua Hall, and Marcus M. Witcher, 'Structured Writing Assignments in an American Economic History Course' in Joshua Hall and Kerianna Lawson (eds.) *Teaching Economics: Perspectives on Innovative Economics Education* (Switzerland: Springer, 2019), pp. 155–162. None of these, however, constitute a detailed examination of the ways in which students relate to, and engage with, the teaching of economic history.

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2 What do we analyse – typology of sources

Catherine Casson, Georg Christ, Chris Godden, John S. Lee, Sarah Roddy, Philipp R. Rössner and Edmond Smith

2.1 Administrative sources

Introduction

Administrative sources are important for two reasons; they are a source of quantitative material and they contextualise that material by informing on the operation of the economy. This sub-chapter covers three main forms of quantitative sources that survive in three locations. Fiscal sources, such as tax returns, inform on central government as an economic actor. Normative sources, often produced by legislative bodies, outline the framework of the economy. Judicial sources, including court records, show if and how that framework worked in reality. The information recorded in these sources, and their production, was the product of interactions between different groups. Such interactions could be initiated by the general population ('bottom-up') or be directed by central or local government ('top-down'). Trade records will be discussed in a separate section (2.2) since these have proven particularly interesting and revealing to historians studying not only commercial flows but also wider questions of economic development. They also have a particularly 'fiscal' edge telling us as much about economy and trade as they do about state formation and the politics of social, political and economic change.[1]

Administrative sources survive in great volume and depth. Rather than attempting to provide an exhaustive overview, we concentrated on but one location – England. The situation with regard to the production, preservation as well as editing and analysing of administrative sources in other locales, regions and countries can be quite different; yet it seems sensible to provide a survey of one situation in some depth rather than more superficial comparative surveys of several. Furthermore, there is something like anthropological-bureaucratic constants; the reader might find that Mamluk Egypt or Song China – despite all differences – would also resemble each other with regard to bureaucratic systems in some key aspects and features. The reader will also find reference to other locations in many of the following sections and chapters in the book. For some categories of records an academic literature is available which demonstrates their use in

quantitative analysis, and where that occurs we direct the reader to it for further information. For reasons of space it is not possible to systematically detail all examples of surviving records, and so we direct readers to additional bibliographies, catalogues and search engines that can be used to find further examples.

The routine creation and archiving of administrative sources in England seem to have commenced in c. 1200. Three connected reasons have been proposed for this. The first was the shift from reliance on memory to reliance on written records, as noted by Clanchy.[2] Oral transmission of information and a reliance on its storage in the memory of an individual was to be replaced by the creation, archiving and retrieval of documents. The second was the transformation of the royal court from an itinerant monarchy, travelling around the realm, to a sedentary monarchy based in Westminster.[3] Written documents were required to connect the crown to the rest of the country. Instead of hearing and determining all cases in person, the king began to delegate such activities to a separate judiciary. The framework of the royal courts began to be emulated in towns and on agricultural manors, with the creation of courts to hear cases between residents and to police behaviour that was damaging to the wider community. Court business increased in both scale and scope, with a corresponding increase in the volume of administrative records.

The third reason for the creation of administrative records was the expansion of trade that occurred in England from c. 1200 onwards. Improvements in agricultural efficiency and a reduction in the risks connected with international trade encouraged the foundation of new towns, where agricultural produce could be traded and manufactured items created for export. There were two potential draw-backs to this situation, however. The English crown delegated some authority to towns to enable them to create and hold courts which could police the price, quality and quantity of goods and the conduct of trade. In turn, those courts produced records in order to administer the collection of fines, to record precedent cases, to note requests from central government and demonstrate that they were fulfilling the functions they had been delegated. The administration of agricultural production was largely delegated by the crown to local landowners. The manor was the main administrative unit, providing both a residence for the local lord and a focal point for the administrative coordination of agricultural

production and labour.[4] The development of static, permanent royal courts in the thirteenth century was echoed in the creation of manorial courts.[5] Their jurisdiction initially focused on cases between free tenants, notably 'personal actions and land transactions', but soon extended to cover a range of interactions between the lord and the people living on his land.[6] As with the creation of the separate judiciary in the royal court system, a dedicated group of salaried administrators emerged to run the courts and to track agricultural production and the sale of produce.[7] Their activities were recorded in new administrative documents, including manorial court rolls and manorial accounts.

The chapter is organised according to the institutions that produced the source. This reflects the organisation of most archives, and facilitates an understanding of the institutional concerns reflected in the sources.

Royal sources

The administrative sources originating from the English crown were predominantly fiscal and normative and reflected royal priorities. Maintaining rights over land and ensuring that royal holdings were not alienated to other institutions (notably the church) was a key motivation for creating administrative records. Such information could then serve an additional purpose by helping to identify potential sources of taxation. Ensuring the prosperity of the economy was also important, as it provided a resource for taxation revenue. This could be achieved through supporting the foundation of new towns and by documenting and disseminating normative guidance on how those towns, and the transactions within them, were to operate.

Charters

Charters reveal the commercialisation of the economy through new town foundations, and the entrepreneurial activities of the lords who founded such towns. Several waves of town foundation occurred in England; notably under the Romans, under the Anglo-Saxons and from the reign of Edward I. While the reasons for town foundation have been debated, by c. 1200 there

is evidence that town foundation was an attractive proposition for enterprising landowners seeking a market for their surplus agricultural product. While town foundation required a financial investment, that could be recouped via revenues from tolls and civic institutions.

However, a new-founded town needed inhabitants, and so incentives were created to encourage settlers, especially skilled craftspeople, to live there, notably the ability to purchase, sell and inherit property and to trade in the market without paying duties. These rights were an improvement on those available in rural settlements. A town was also usually permitted its own court, which upheld normative legislation set by the crown and provided legal redress for any problems that might occur in the course of transactions. Trading in a town was more convenient for customers than travelling around many ‘farm gates’, while the court system encouraged confidence in the security of transactions.[8]

Charters provide important information on the functions of towns and on the extent and chronology of urbanisation although, as discussed below, not every town had a charter. The charter recorded the incentives offered to those who came to settle in the new foundation and the institutional framework of the town. The charter was granted by the king, usually in return for a payment. Initially the charter was retained by the town, but from 1199 copies of foundation charters were enrolled in the Charter Rolls or the Patent Rolls.[9]

Lists of charters drawn from those sources were compiled for the period 1042–1660 by Ballard (1913), Ballard and Tait (1923) and Weinbaum (1943).[10] Not all towns obtained charters, however. The work of Ballard, Tait and Weinbaum was therefore extended by Beresford and Finberg. An extended list of town foundations from the Roman period to 1509 is provided in Beresford and Finberg’s *British Borough Charters*, which draws on a range of sources, including the Anglo-Saxon Chronicle, the Domesday Book and the Charter Rolls and Patent Rolls.[11] Detailed information on Edward I’s new town foundations in England, Wales and Gascony is provided by Beresford.[12] More recently, this information has been summarised in the ‘Gazetteer of Markets and Fairs in England and Wales to 1516’, which also distinguishes between those towns that thrived and those that faltered.[13]

Letters close and letters patent

Letters patent were issued by the crown intended for public communication; they cover a diverse set of topics including 'grants of official positions, lands, commissions, privileges and pardons'. Their contents are summarised from 1201–16 in the *Rotuli Litterarum Patentium*, for 1216–32 in the *Letters Patent of the Reign of Henry III* and from 1232–1595 in the *Calendars of Patent Rolls* stored in the National Archives, Kew (TNA). They have particular value in the reconstruction of the careers of individuals, both as traders and regulators. Hull in the north-east of England was founded by the Cistercian monks of Meaux abbey in the late thirteenth century and then purchased as a going concern by Edward I. Royal patronage and good environmental management attracted settlers, including many merchants. The Patent rolls inform on the careers of many of the settlers.[14] William Birkyn (aka Byrkyn), for example, owned property in the town in 1347 and the letters patent reveal his appointment as deputy king's butler on 23 February 1331.[15]

Letters close were issued sealed and usually directed to individuals. They covered similar issues to the letters patent. The contents of letters close can also contribute to the construction of individual careers, as in the appendix of aldermanic families in London in 1300–1500 researched by Thrupp and the careers of merchants in York, Beverly, and Hull in 1300–1500, researched by Kermode.[16] Liddy also drew on them as a source in his appendix on individuals in Bristol and York who lent money or ships to the crown in the period 1350–1400.[17]

The creation of new business ventures can be traced through both the close and patent rolls. Hull merchant and property owner William de la Pole was the brains behind a new business opportunity in the field of royal finance. Pole's model involved a syndicate of merchants being granted control over the customs and subsidies for a fixed period, in return for an annual payment to the crown. The intention was the merchants benefitted from easy access to the lucrative wool export trade, while the crown received a predictable source of income for its military campaigns. The operation of this model in 1337 and 1343 can be traced through the Close and Patent Rolls.[18]

Urban sources

Urban sources provide information on entrepreneurship, philanthropy, institutional strategies and the composition of workforce. Urban records are valuable for the range of perspectives they provide (of the crown, the local authorities, citizens and visitors) and the range of activities they cover (social, political and economic).

Records of local government administration

Records of local government administration provide an often colourful insight into daily life in towns. As the crown became increasing sedentary, many responsibilities for maintaining law and order and regulating trade were delegated to local government. Court rolls reveal how the laws made by central government were enforced in the localities. On some occasions central government was not as responsive as local government, and so towns used their courts to create bespoke laws. Many cases were prosecuted by the community against individuals or groups whose activities were perceived to break laws or to be against the common good. However, prosecutions could also be brought by individuals, notably around debts and apprenticeship contracts. This information is recorded in court rolls and administrative registers.

Court rolls record the proceedings of a specific court while administrative registers usually include a wider range of documents, including communications with central government, local religious houses and other towns, records of state visits and copies of royal and civic regulations. Court rolls formed the basis of individual studies of towns, such as Britnell's work on Colchester in the period 1300–1525 and Barron's work on London in 1200–1500.[19] Transcribed and translated editions of the records of local government survive for a number of towns, including London, York and Bristol.[20]

Rentals

While records of local government administration provide overall context to urban life, other sources allow us to examine in more detail the lifestyles of

citizens and conduct other types of quantitative analysis. Just as today, a 'buy to let' market existed in which institutions (such as monasteries) played a major role. Individuals invested in property as an asset which could yield a rental income. They monitored their investments through the production of rentals, which recorded the properties they received rent from, the location of each property (by street), its characteristics (such as the presence of outbuildings) and the amount of rent paid.[21]

Guild records

Guilds can be defined as associations of individuals formed for a common purpose, using a subscription model of membership.[22] This common purpose could be trade promotion, social interaction or religious observance. Some guilds focused on one of those areas, while others incorporated elements of more than one. Guilds were usually based in towns, and drew their membership from local residents and, occasionally, from traders in other locations who had business interests in the town. The origin of guilds has been the subject of some debate in the academic literature. Generally, however, three types have been distinguished, namely merchant guilds, craft guilds and religious guilds. Merchant Guild records can inform on three core business structures: the individual merchant operating with the support of the guild; partnerships between guild members and the operation of the guild as a corporate entity. Their contents reveal a range of activities pertaining to apprenticeship, quality control, social networks, religious practices and the operation of local government. Many guild records have been translated and published, and details can be found in bibliographies of guild records.[23] The main quantitative approaches used in their analysis have been the counting of the number of enrolments of guild members.

Manorial sources

Information on activities in the countryside can be obtained from the records of the manors. Manors were operated by both individual landowners and religious institutions. A range of manorial records were produced, notably court rolls and manorial accounts. Just as local authorities oversaw affairs in

the town, lords had responsibility for the operations of their manor. The development of sedentary royal courts in the thirteenth century was echoed in the creation of manorial courts.[24] Manorial courts 'initially dealt predominantly with civil litigation between free tenants, especially personal actions and land transactions' but their scope of business soon extended to cover a range of interactions between the lord and the people living on his land.[25] The historiography on manorial courts and examples of case studies using the sources are helpfully summarised in the select bibliography provided by Bailey.[26] Published versions of manorial court rolls include those of Walsham le Willows, Suffolk for the period 1303–1350.[27] There is an ongoing research project to calendar the court rolls of Wakefield in Yorkshire, which cover the thirteenth to nineteenth centuries.[28] The National Archives hold a register of the location of manorial documents, known as The Manorial Documents Register.[29] Manorial accounts 'build upon the "static" information contained in surveys, extents and rentals by recording in detail how the individual elements of the manor were managed and what they actually yielded over the agricultural year (Michaelmas to Michaelmas)'.[30] Information from accounts was systematically analysed using quantitative techniques by Campbell.[31] Drawing on manorial records, in conjunction with other sources *The Agrarian History of England and Wales*, meanwhile, provides a number of price (livestock, grain and other commodities such as cheese) and wage (labourer and craft-worker) series.[32]

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2.2 'Official' accounts: Taxation

Taxation provided a way in which a monarch or government could fund large projects, be those wars or pieces of infrastructure. It could be applied to goods and services, and also to an individual's income. The manner in which taxation was organised varied considerably between locations and over periods. What was a state and what a state looked like (kingdom, province, duchy, free imperial city, imperial abbeys, a city council – to name but the most common shapes, forms and containers of statehood) varied across western Europe in the Middle Ages and over the modern period. Most states developed their own rules, based on the applicable rules of taxation or customs administration. Often there would be similarities, suggesting a common or shared environment of taxation and statecraft and processes of learning and knowledge transfer. And when states merged, as was the case between Scotland and England in 1707, customs administration and statistical surveillance would be standardised (in the case of the United Kingdom after 1707 the old English customs system from the Restoration would be applied in Scotland as well).[33]

Taxation records allow larger quantitative pictures of trade flows and economic performance, on the regional as well as the larger, national level; they are also indicative of wider policies of state formation and politics of economic change. There are disadvantages in using such records, however. Smuggling and tax evasion were rife[34]; tax collectors sometimes illiterate or habitually drunk.[35] There were no general or formalised systems and sets of rules yet on how economic or social statistics should be gathered, processed and kept on record.[36] This section largely focuses on evidence from medieval England. More detail as well as practical examples for customs accounts and other types of emerging demographic and national income statistics in the post-medieval period will be given in chapter 6 for early modern customs accounts and their wider context of statistics and economic development (Rössner) and in chapter 8 (Palma) which discusses historical national income accounts.

Regular annual direct taxation was not yet common or known in the Middle Ages. Instead, most taxes were levied on an 'extraordinary' basis

that corresponded with the crown's need for funds.[37] Direct and indirect taxation were important sources of income for the crown as it sought to fund military campaigns in both France and Scotland.[38] However taxation also had implications for entrepreneurship, as in the case of William de la Pole, mentioned earlier. The earliest direct taxes were usually based on a proportion of the value of a lay individual's moveable property or a cleric's income. The 1327 lay subsidy, for example, asked for a twentieth, while the subsidy of 1332 asked for a fifteenth and tenth.[39] From 1334 a new system was introduced whereby a quota was set for a town or settlement, and its inhabitants were given the responsibility to decide on the proportion of their contributions amongst themselves, although it had to match or exceed the collective value of the payments by local residents in 1332.[40] From 1377 the poll tax system 'made taxation a virtually universal obligation binding on all adult heads of population'.[41]

The lay subsidies of 1327, 1332 and 1334 were systematically analysed and mapped by Campbell and Bartley.[42] The original sources can be searched for in the E179 database of the National Archives, Kew (TNA). They found that there were some subtle regional variations in wealth but also some more striking ones, notably within Cambridgeshire and the West Midlands.[43] A further finding was that the wealth of the cities of London, York, Bristol and Norwich had not disseminated to their rural hinterlands.[44] Interactions between towns and the crown over requests for loans and over taxation were examined by both Liddy, in relation to York and Bristol in 1350–1400, and Attreed for York, Norwich, Exeter and Nottingham in the period 1377–1509.[45]

Taxes could also be applied on exports and imports. In England, these were systematically collected by the crown from 1275.[46] They were imposed on key commodities, notably wool, cloth and wine, with the merchant paying a duty dependant on the quantity they were importing or exporting.[47] Carus-Wilson and Coleman used the customs account to provide a statistical analysis of England's overseas trade in the period 1275–1547 by commodity and by location.[48] Editions have been published of the accounts from some of the headports, including Boston and Hull.[49] These detail 'the date on which individual ships with goods liable to custom or subsidy arrived or left …, of the names of merchants with goods on board, of the nature and value

of the goods which were imported and exported, and the amount of custom or subsidy due from them'.[50] Totals are provided at the end of the accounts of 'all imports and exports and the duties levied on them'.[51] The money collected in the headports went to the Exchequer.[52] The account of the collectors for 1386–1387, for example, records that on 16 February 'the ship of Petrus Peterson landed. The same Petrus and his sailors for onions and garlic: £14 10s. Subsidy: 14s 6d' and on 31 August 'the ship of Simon de Westvale landed'. The same Simon for fish: £298 12s. 10d; Johannes Kekle for woad: £279 15s. And Johannes van Ler for wax: £65 15s. Total value of this ship: £644 2s. 10d. Subsidy £34 4s. 2d.[53]

After the Middle Ages, other types of accounts emerged as well. In sixteenth-century Saxony and Spain for instance the rulers ordered general surveys of the land, including data on agrarian yields and agrarian productivity. Kings, rulers and other 'states' began to take demographic statistics, i.e. 'count' the number of citizens and people living within their country or provinces or realms. Obviously, this happened when there were increasingly fixed and modern notions of what was a state, geographically speaking, i.e. borders and frontiers. As these things only emerged towards the late Middle Ages (c.1350–1500 AD) and during the early modern period (1500–1800 AD), the process of emergence was tentative in the case of national accounts and statistics: the rise of 'modern' national income accounting and economic statistics was a by-product of the process of modern state formation. Accounting and statistics being the key features of what is or constitutes a state (governance); the rise of the fiscal state and modern fiscal or income accounting (and economic statistics) was a process of co-evolution and mutual or cross-fertilization. As the medieval and early modern (fiscal or military) states were as yet imperfectly developed, so were methods and ways of keeping track of it statistically.

[Catherine Casson and Philipp Rössner]

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2.3 Private accounts and business records

We described above (2.1) how literacy evolved and expanded in the field of administration around 1200 (in England). It was only natural considering the archaic origins of literacy in accounting that literacy would soon (re-)conquer the mercantile sphere. Merchants eagerly applied literacy to enhance the management of more complex and expansive business operations mainly in four-interrelated fields. They replaced or corroborated oral instructions to commissioned/partnered traveling merchants or agents by written instructions and they stayed in touch with them through letters. They managed their assets and cash-flow via written accounts of which extracts served for customs declarations or the calculation of fees and clearing of debts. They also used the services of notaries to deposit/corroborate written contracts, receipts, commissions, testaments etc. in the public domain. They thus produced sources that were only partly meant for keeping and transmitting over-time, so-called 'relic' sources (in German: "Überrestquelle"). This section covers the development of business letters from the Middle Ages to the twentieth century.

Written instructions are relatively straightforward sources if they survive. They are of great use to business and economic historians as they give relatively clear indications on what business was conducted and thus shed light on particular risks, opportunities and customs of a specific market place.[54] They can also shed light on other merchants that were considered experts and whose advice or investment decisions should be followed.

Related and partly overlapping with this genre are business letters. Medieval business letters, e.g. from Venice, update such instructions as the ones discussed above or add new instructions and tasks in subsequent letters. But they also contain other elements: news that is of specific relevance to the instructions given or altered but also of the type that we would expect in a newspaper as shall be discussed in some more detail below (2.4). Then there is also news of a more private kind, such as events regarding common friends or family etc. This news is only one part of the more personal elements in such early business letters. Others are invocations of friendship, the long business relations between the two correspondents, venting of frustration or joy and so on. Business letters replace oral forms of

communication on a larger scale (at least in Western Europe but we believe this is also the case in the Arabo-Persian Islamic world) with the advent of the relatively cheap and light-weight (i.e. very transportable) paper as writing material: the White Revolution. In the earlier period of their existence, they still bore strong resemblances to, and were strongly entangled with, oral communication: letters were read aloud and thus shared, news considered a shared community good. Yet the letter had the potential to be increasingly used as a form of enclosed, private communication articulated by the folding, closing-up and sealing of letters. These traits of confidentiality could be further strengthened by the use of veiled language or code.[55] Letters became so abundant already in the Middle Ages that merchants invested considerable time in their correspondence and had to develop sophisticated record keeping systems.

Private accounts and other business records of a similar kind and scope, i.e. all sorts of lists recording items and payments are an often-neglected source of the highest potential. In style and make they are similar to the official accounts presented above: double entry book-keeping combined a journal of business and cash-flow related operations chronologically and produced entrances in two accounts, as shown in this example of a (fictitious) Venetian account from the early fifteenth century:

> 5 June 1415 received for 2 lengths of cotton from Mr. xy 5 ducats that is x £ y s. z p. [the latter being the money of account – often the old Carolingian silver pound sterling].

This journal entry (whether explicitly stated in a separate journal ledger or not) produced two entries in different accounts: the cash-box account would be credited with 5 ducats and the cotton account would be debited with the cotton sold.

It would be tempting to read accounts as narratives of business, i.e. of the activities of a merchant and how his/her business evolved. In this context one might also want to analyse them quantitatively, especially accounts drawn by tax officials (see above). Yet accounts are complicated works of art of a particular literary kind: at the very origin of writing and literacy (n.b. – our modern letter ‘A’ once might have recorded oxen brought to the temple)[56] it remains very much part of literary culture of the highest sophistication. Accounts can be as much or even more about hiding facts than about their revelation. An extremely rich and often-overlooked kind of

source, they have to be read with care and as literary products serving two simultaneous and conflicting purposes. Accounts were used both internally and externally. On the one hand they helped to maintain oversight over a tangle of complicated interactions, joint ventures, outstanding debts and credits; on the other hand they enabled the transmogrifying of this tangle into a fantastically, wildly unrealistic illusion of order, legitimacy and righteousness to impress a court and perhaps also the merchants themselves. In other words: they probably, mostly are based on and originally served as an internal device to deal with ever more complex business transactions and thus responded to a very real historical challenge of up-scaling (demographic and, hence, economic expansion of, say, the Middle Ages). Yet in the way accounts come down to us, they often are the fruit of a complex exercise of cooking the books, of cleansing business of the stains of speculative practices, smuggling, bribery etc. They represent fragments of reality, sure, but most importantly that of the strong imperative to harmonise grim business reality with the lofty visions of how business ought to be – pretty much like annual reports today. Understanding this kind of medieval and early modern source enables the reader also to better understand and critique such documentations today.

[Catherine Casson and Georg Christ]

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2.4 Newsletters/-sheets and newspapers

The newsletter developed as some sort of spin-off from the genre of the business letter, discussed above in 2.3. This section covers the development of newsletters from the Middle Ages to the twentieth century, and how different source genres developed out of them. From the fifteenth century onwards, we find increasingly de-personalised news-sheets, and eventually, from the seventeenth century onwards, also printed newspapers and gazetteers, as well as circulars providing financial information on institutions such as companies or charities.[57] Often thought of as sources primarily of interest to historians adopting a qualitative methodology, private correspondence and newspapers can also be rich sources of information suitable for quantitative analysis. In the absence, for example, of accounts recording income and expenses, an institution's monetary transactions can often be pieced together through content analysis of correspondence, private as well as business, in the shape of letters or publications in newspapers and periodicals. This can be a fruitful exercise where enough of a critical mass of letters survives to guarantee statistical robustness.[58]

News in the form of gossip or chat, i.e. the exchange of abstract information, imagined as in not directly related to an ongoing activity, object or phenomenon visible to both interlocutors, is arguably as old as *Homo sapiens sapiens* – one might even for that reason call the latter more appropriately the *Homo sapiens nugans* – the chatting hominid; for this, one could say, sets mankind apart from other animals: the chatter as a part of social bonding.[59] Yet for the first few thousand years of our existence this chat is lost to the historian. We might find archaeological evidence on a wide range of issues (see section 2.7 this chapter), we might find the fireplaces that indicate where and when chatting was happening, but the object of the chatter is lost.[60] Perhaps that a few old myths come down to us in a long chain of oral transmission and fixed only very late – by Homer around the ninth century BCE or earlier in the case of the Odyssey or Iliade, the Sagas of Icelanders in the tenth and subsequent centuries[61] or even only in the seventeenth century as was the case of the sîrât Baybars – in textual form. But then the news, the chatter is de- and re-contextualised, harnessed to a

bigger literary, knowledge managerial, mythical, world explanatory purpose and so widely different from the original chit-chat fired by the hearth or campfire, reduced and transformed beyond recognition. Similarly, medieval chronicles might contain orally transmitted news but again: the process of transmission, transforming and streamlining, stereotyping news is so intense that the original news is rather remote if at all palpable through the curated, stylised medieval text. Hence, it is with the white revolution, with the advent of paper (see section 2.3 this chapter) that we can trace news in a somewhat more crude form in texts – as in the above-mentioned and discussed business letters. Even there, they come stripped of much of the chatter in a fairly streamlined teletext/news ticker kind of form:

> Di nuove ve dirò su brevità perché, per altre, son zerto, a pien serì avixato. [Of news I will talk only briefly as I am sure you will be more fully informed by others.]
>
> E prima di la guera de Friul: Plui frater sosta qui (anbasiada del Patriarcha) monstrando voler paxie e mai fa messo al raxionevel perho nulo con lui è fato. Anzi Udene et alguni altri luogi avuti al guasto. Abiane vigne, arbori arssi(?), vile et chaxe qui morte conprexa di suo, et gran dano d'anemali. A questi dì quei de Zividal ave' paxie da la nostra signoria da mo' avanti, spero s'aquisterà di le forteze se dexiderà. [And first re the war in Friul: Several fraters (*ecclesiaticals*) are (lit. *rest*) here (*in Venice*), as an embassy from the Patriarch (*of Grado*), demonstrating to want to make peace…]
>
> Et non se sente zente Ongara fim qui defende a queste parte ma ben aver fato asunanza per hostar a turchi, i qual fe' dito voler andar in Ongaria [And one does not hear that the Hungarian people hitherto defended these parts but they well have gathered to fight the Turks, who, it was said, want to go to Hungary].
>
> Chome averì saputo, signor Pandolfo [*Malatesta*] conprò Chremona da Signor Chabrin [*Fondulo*]. Dapo quel signor Pandolfo se liga al Marchexe [*di Mantua*] contra'l ducha di Milan, el qual ducha ha mandato suo chanpo, zoè parte su quel di Bergamo a danno de signor Pandolfo e zià li ha tolto algune chastele et l'altre suo zente son atorno Chremona. La chossa non è senza pericholo. Et mi ppar non se trovar sprovezudi convegnimo far zente per quela banda. [As you will have known, lord Pandolfo (Malatesta) bought Cremona from the lord Cabrin (Fondulo). Then, this lord Pandolfo allied with the marquis (of Mantua) against the duke of Milan, who has sent his camp, that is part (of it) up to the one in Bergamo to the damage of lord Pandolfo…]
>
> Di fati d'Albania chome averì saputo, Balsa ave Antinori (…) [From the facts from Albania as you will have known (already), Balsha took Antinori…]
>
> El papa se trova a Firenze (…) Baldisar Choxia fato chardenal (…). [The pope is in Florence (…) Baldassare Coza (*one of the former, deposed popes!*) was made cardinal]
>
> Dal re d'Engeltera (…) paze (…) chi chrede averà efeto et chi non. Dio prometa el melglio che chredo seria la paze. [Of the king of England (*context of Hundred Years' War…*) peace, some believe will be made, some not. God may promise the best, which, I believe, will be peace.][62]

The extract above is taken completely at random from a business letter from 1419 sent from Venice to Alexandria. It first explicitly states that this is only a short news summary and thus alludes to more expansive genres, the so-called news-sheets, which were letters specialised in news more or less personalised i.e. selected for the respective recipient.[63] Then it moves by themes: war in Friuli comes first and most extensively noting an embassy trying to end the war, the ongoing fighting in Udine and other places, but also the destruction of vineyards, fruit trees, houses, people and animals (in this order) and a separate peace with another city in the Friuli. Then it moves on to a connected issue: Hungary. As the war in Friuli was partially civil war, partially a war between Venice and the king of Hungary, Sigismund, the possible threat to Hungary by the Ottomans was decisive for the Venetians as it kept Sigismund's forces occupied. Then moving basically clockwise (Friuli 12 pm, Hungary 2 pm) further down to Albania (5 pm) and local strongman Balsha's exploits, it moves back up the clock face (8 am) to the pope in Rome and the Northern Italian Terraferma (9 am), where a struggle between Milan and another lord might upset the balance of power which worried Venice. Finally (11 am) it reports on the developments of the Hundred Years' War in France and hopes for peace – not only out of Christian humanity but because of the potentially resulting business opportunities made more explicit in other letters.[64]

In other letters we find more hints on how this letter-borne news interacted with oral news and chat. Warnings are given to not read certain news aloud (indicating that often it was read aloud) or that one should not trust so-and-so for their letters reported rumours and lies (fake news? In Italian: *zanze e bugie*). From other letters we learn about the social pressure to divulge news received in letters revealing the ambiguous status of the business letter between private and communitarian/public.[65]

Already in the early fifteenth century, newsagents started to specialise in news – e.g. the Venetian nobleman Morosini doubling as chronicler – and increasingly, it seems, produced newsletters to paying subscribers.[66] Print, surprisingly did not change the state of affairs significantly; that is, print, which was used almost immediately after its 'invention' in the fifteenth century for news-related background information or, shall we say, contemporary history publications,[67] did not fully replace the hand-written

newsletter until well into the seventeenth century,[68] with the first business newspaper-style print publications (commodity price and exchange rate currents) appearing in Antwerp from the 1540s onwards and then spreading, slowly to other mercantile centres.[69]

By the eighteenth century, newspapers had firmly arrived as a cultural form, with a succession of daily titles which still survive. In Vienna, what is now *Wiener Zeitung* first appeared in 1703; the *Hildesheimer Allgemeine Zeitung* began publishing in 1705; the oldest English-language daily, the *Belfast Newsletter* started in 1737; Copenhagen's *Berlingske* was founded in 1749; and in North America, both the *Quebec Chronicle-Telegraph* and Connecticut's *Hartford Courant* were first produced in 1764. Meanwhile the first and oldest Sunday-only title, Britain's *Observer*, was first published in 1791. This eighteenth-century growth speaks to the fact that, as Barker notes in the case of England, 'newspapers had become part of the everyday life of English men and women'.[70] In the nineteenth century, with rising literacy and the emergence of mass society, the number and size of newspapers exploded across the world, with increasing geographic specialisation – a proliferation of local and regional titles – but also subject specialisation. Following the emergence of other enduring business and economics periodicals, including *Lloyd's List* in 1734 and *The Economist* in 1843, several key international financial daily newspapers began printing in the 1880s, including the *Financial Times* (1888), *Wall Street Journal* (1889) and Japan's *Chugai Shogyo Simpo* (1885 – now *The Nikkei*). By the twentieth century, mass market tabloids, with sales in the multiple millions symbolised a high watermark of newspaper popularity and influence; Britain's *Daily Mirror* alone was selling well over 5 million copies a day by the 1960s[71]; the German title *Bild* was still achieving similar numbers in the 1980s.

Politics, society and increasingly celebrity gossip were large parts of the press's growing appeal. But throughout the modern era, the fact that newspapers, specifically financial or otherwise, tended to supply updates on financial matters as diverse as prices (commodities, groceries, property etc.); stocks and shares reports, sports betting odds, charitable donations and funds, bequests, consumer financial advice, and so on, also made them vital reading for many. The routine presence of such information, often faithfully and systematically reported at regular intervals, means newspapers offer enormous potential for quantitative research, particularly in contexts where

state-generated data may be absent or patchy. Moreover, as will be discussed in chapter 10 below, apart from financial data, newspapers in digitised form also offer ripe possibilities to count and measure the growth, spread and even the decline of more abstract phenomena such as ideas, people, and even particular words and phrases.

[Georg Christ and Sarah Roddy]

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2.5 Literary sources, chronicles

Literary sources, such as, say, the Canterbury tales or any other belletrist writing: poetry, novels, tales and so on present great problems for the economic historian as they often seem to be rather barren of reliable quantitative or economic information, instead focusing on drama, world explanation, myth creation and perpetuation not least in the service of producing big-group (e.g. national) identities.[72] They thus would seem entirely unsuitable to inform economic history. Yet at a second glance this might be different as they may well tell us in their stereotypes and *topoi* about anthropological constants, eternal human problems relating to material exchange. They can talk about usury, charity and debt; greed, largesse and economy (in the narrower sense of being economical), about collective vs. individual economic action, about the conflict between the urban and the rural modes of production or the nomadic and the sedentary; about economic mentalities between pessimism and optimism.

A survey of literary sources could, at least for a European public, start with the Bible. The Bible would be a good example of such a source that many would see as a literary source. On closer inspection it is not or not only so much. As a compilation of many different texts over a long period of time, it is, if nothing else, a most important source for the history of knowledge management and transition between oral (of which the Bible contains many traces) to written records and knowledge preservation. It also contains precious economic and social historical information e.g. in the Books of Moses on materials, meat consumption practices, inheritance, the conflict between settled farming and nomadic herding, but also measures and weights and other regulations affecting economic life. The same would, *ceteris paribus*, arguably be true of other scriptures/religious texts and traditions. Homer's epics for instance provide important insight into an economy already marked by trade and that is seen rather negatively and nostalgically contrasted with an imagined (but not entirely 'wrongly' imagined) autarkic society where economic activity is characterised by subsistence farming with limited treasure accumulation and redistribution occurring in and through the leaders house (*oikos* – hence: *oikonomia* – the science of managing one's household, see below).[73] More prominent

examples of literary sources that are marshalled to illustrate or even investigate past economic life are Geoffrey Chaucer's *Canterbury Tales*, where many details of mercantile life are cursorily mentioned, although not in particular in the Merchant's tale.[74] Even more famous is Shakespeare's *Merchant of Venice*, which may be a useful source through which to explore certain aspects of economic and social life in London rather than Venice. More modern literary sources passingly used in economic history include poems, songs and novels. The overall depiction might be highly stereotypical and exaggerated, but in the minutiae, so-to-say in the blind spots of the main narrative arc, one might find a quantum of truth.[75]

But there is, of course, a much wider range of textual, literary or para-literary (from the perspective of economic history) sources that can shed light on economic and social mentalities and life. Theological treatises, legal sources (see section 2.1 on administrative sources, above) can draw a particularly bleak but also idealised picture of how economic conditions and structures should be. A related genre is economic advice literature. An early example of such literature is Xenophon's treatise establishing economy as an advanced, technical rather than scholarly or scientific skill – a *tekhne*, advocating applying the rigorous regime of managing a (high-tech) ship to the household in order to improve its effectiveness. The next step was an up-scaling of this (transferable) skill set from the house to the polity/city (polis). Subsequently a rich bout of literature on the polity's (from the early modern period increasingly: the state's) economic do's and don'ts followed. In the medieval Euro-Mediterranean, both the Islamic and the Christian cultures, including the eastern versions of Christianity in Constantinople and the Kievan Rus', this literature was usually (but not exclusively) couched as mirrors of princes (German: *Fürstenspiegel*), i.e. advice to the ruler (given by a wise man). These are highly condensed dialogues containing practical advice as in the various oriental and occidental versions of the *Secretum Secretorum*, wherein practical advice on good rule is couched as a fictional dialogue between Aristotle and Alexander the Great.[76] Ibn Khaldûn's *Muqaddimah* [lit.: introduction] is a special case of such literature moving past this format towards what we might nowadays call 'evidence-based policy making'-advice. His 'introduction' is positioned as the essence of lessons derived from his expansive history writing, compiled in the voluminous *Kitâb al-´ibâr*, i.e. advice that is grounded in rich, irrefutable

historical evidence.[77] Of course this is not entirely new but grounded in a long tradition of using examples, *exempla*, as part of speeches, i.e. the respective fundus of (economic) historical material was taught as part of rhetoric.[78] In the early modern period, we find a rich production of treatises on manufacturing, mining, agriculture and fiscal management or short: policy (*Policeywissenschaft*), cf. the works by the French state administrator Jean-Baptist Colbert, German economics professor Johann Gottlob Heinrich von Justi (1717–1771), Austrian civil servant Philip Wilhelm von Hörnigk and so forth.[79] At the same time, the economic literature still focused on the household continued e.g. in the early modern *Hausväterliteratur*.[80] The nineteenth century saw the rise of financial advice literature – standardised information for stockholders, financial reporting and the like.[81]

Chronicles would seem a priori unsuitable to provide much information we would nowadays consider 'economic'. Some chroniclers, however, e.g. the Venetian authors Antonio Morosini or Marino Sanudo, preserve in their diary-style chronicles extensive collections of news (see the sections on letters and newsletters above) and thus provide important hints on economic life, including information on ship movements or reports read by returning ambassadors and lieutenants on the economic potential of lands they had been posted to etc.[82]

The approach to reconstructing the medieval merchant world through literary sources has been undertaken and the focus and resulting image is very different indeed from a reconstruction on the basis of the sources treated sofar: accounts, letters, business records etc. It focuses more on the image of the merchant in society, moral judgements, deontology/ethics very different from the image of the sedentary merchant drawn by classic or traditional economic historians: the reckoner, writer, occupying an office or *kontor*, managing money and coins, letters (incl. bills of exchange), information; a rational modern man.[83]

[Georg Christ]

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2.6 Posters and advertising

Visual sources are not commonly associated with the study of economic history. Visual sources, if they are used at all, may be tangential to a specific debate – such as the commercial history of art markets – or serve as the (decorative) background to the wider story of economic and social development.[84] To generalise on this point, the economic historian favours statistical evidence and so is likely to be uncomfortable analysing visual sources.[85] There are, of course, a few noticeable exceptions. Consider the visual language of eighteenth-century trade cards. Trade cards were commercial notices promoting the names and locations of individual tradespeople. Such printed materials supported commercial trade networks, and helped to mediate relationships between buyers and sellers in complex systems of credit. Such source material is important in relation to the history of consumer culture and early advertising, and yet has, until relatively recently, been an under-utilised source for economic historians.[86]

In contrast to economic history, pictorial evidence is (a little) more apparent in various areas of modern political/cultural history. The detailed examination of First World War British propaganda posters, for example, has enabled historians to interpret changing war-time perceptions of selfhood and identity. The image of the soldier that is presented in such posters is readily interpreted as representing the masculine virtues of bravery, strength, duty and courage, and so serving as powerful appeals to, amongst other things, citizenship, national pride and justice.[87] Beyond this, we can also note interest in the study of election posters as part of the history of modern political communications.[88]

This section will consider two short case studies that draw on visual sources – advertisements and political posters – to explore different aspects of British economic and social history in the late nineteenth and early twentieth centuries. The first case study will examine the use of advertising as a means of understanding key issues around British imperialism. Advertising was a growing phenomenon during the period of imperialism, and imperial imagery in such advertisements provided many products with connotations of exoticism and adventure, such as the romance of Empire and

the image of the British Empire as a land of opportunity. It has been argued that through this, imperial (racist) ideology was rendered in a simplistic, mass media form. Put simply, advertisers were able to construct a 'paper empire' that reinforced the political legitimacy of empire in the late nineteenth century.[89]

The second case study will consider the role of political posters as sources for exploring the economic cultures surrounding the Edwardian tariff reform movement. Political posters were the immediately visible instruments of mass political communication by the early twentieth century, freely displayed on building walls and shop windows. There is no question that the tariff reform debate was the central economic controversy that split British politics in the early years of the twentieth century.[90] As will be shown below, political pressures around rival economic ideas– free trade on the one hand, tariff reform on the other – were directly linked within the transformation of visual politics in this period.

I do not seek to set out here a specific methodology by which such visual sources can be interrogated. Certain issues are, of course, clear from the outset. First, context is, as always, critical to an interpretation of the materials. Second, we cannot focus exclusively on the aesthetic quality of the images presented, but instead aim to understand their wider meaning and the messages that are being conveyed. With these points in mind, the overall aim of this section is straightforward. It simply seeks to offer examples of how visual sources – advertisements and posters – can contribute to the study of economic history.

Case Study 1: Buying and selling the Empire: Advertising and British imperialism

The growth of the importance of the 'commodity', coupled with the expansion of photography and printing industries, meant that advertising became an increasingly important aspect of commerce, industry and consumerism in late nineteenth-century Britain.[91] In the period c. 1870 to 1910, imperial themed advertisements featured on product packaging, posters, and in newspapers, and constituted one of the most basic and pervasive ways in which British people experienced empire.[92] Put simply,

people engaged with the Empire indirectly through the consumption of goods.[93] John MacKenzie has argued that the imperial dialogue and tropes commonly found within adverts pushed empire-supporting ideology onto the masses by creating a ‘romance’ around products which, in turn, was used to make them more appealing to consumers.[94]

For example, consider an advertisement for the United Kingdom Tea Company, published in December 1894. British Imperialism was very closely linked to the British consumption of tea[95], and this advertisement depicts Britannia pouring herself a cup of tea in an exotic location, with a troupe of Chinese and Indians carrying boxes of tea to her (see figure 2.1). Several aspects of British imperial ideology can clearly be identified in this image. First, the exotic location and the symbol of Britannia linked the product of tea to British imperial strength. Second, and related to the previous point, consider Britannia’s position on the crate of the United Kingdom Tea Company’s tea. Not only do we have the product (tea) associated with exoticism, but the consumer is presented with the clear message that tea is supporting Britannia and so serving to support the British Empire. Third, Britannia is seen here being brought tea by several deferential figures (representing China, India, Ceylon and Assam), yet she does not look or even acknowledge their arrival. The relationship here is clearly one of subservience.



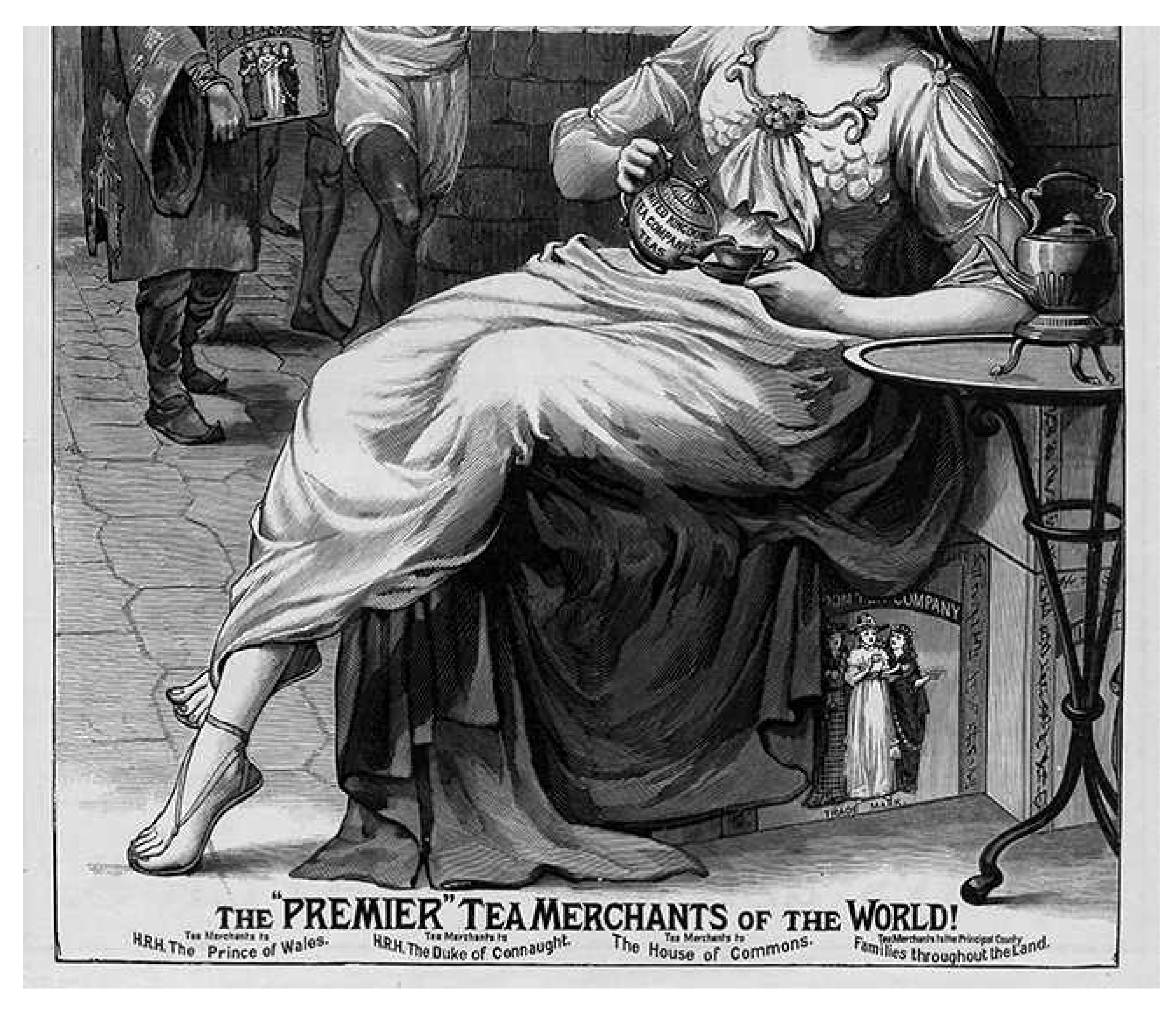


Figure 2.1 Advert for United Kingdom Tea Company, 15 December 1894, *The Graphic*, London. Image courtesy of The Advertising Archives.

The British consumer was presented with powerful messages showing the relationship between the Imperial centre and its colonial possessions. Furthermore, such advertising compounded racist ideologies (often born from pseudo-sciences such as phrenology and physiognomy) regarding the hierarchy of racial difference, and efforts to prove that non-European 'races' were biologically, and therefore irredeemably, inferior to white Europeans.[96]

The use of stereotypes, and the relationships between whites and non-whites within the Empire, highlighted the racial aspect of Britain's imperial ideology and so served as propaganda for the justification of continued British rule.[97] Soap advertisements became a conduit for a particular kind of racial commentary, and we can consider here the famous advert for Pear's

Soap, 'The Birth of Civilization – A Message from the Sea', published in April 1890, depicting a black African man holding a bar of soap which he has taken from a crate washed up on the beach (see figure 2.2).[98] The effect of this racial propaganda through advertising brought ideas of racial impurity and inferiority to a mass market, while consolidating domestic support for imperial expansion.[99] Connected with this, it important to briefly appreciate how many of these advertisements (e.g advertisement for the United Kingdom Tea Company, figure 2.1) ignore the wider social implications of the tea trade on indigenous populations. While British consumer demand for tea drove the expansion in global trade networks, aggressive imperial expansion and authoritarian overseas rule meant that Britain had no qualms about exploiting the indigenous populations it had mastery over. The maltreatment of tea plantation labourers was not uncommon: such labourers were paid below minimum wage, and of approximately 85,000 indentured labourers imported into Assam between 1863 and 1866, around 35,000 deserted or died on the plantations.[100]

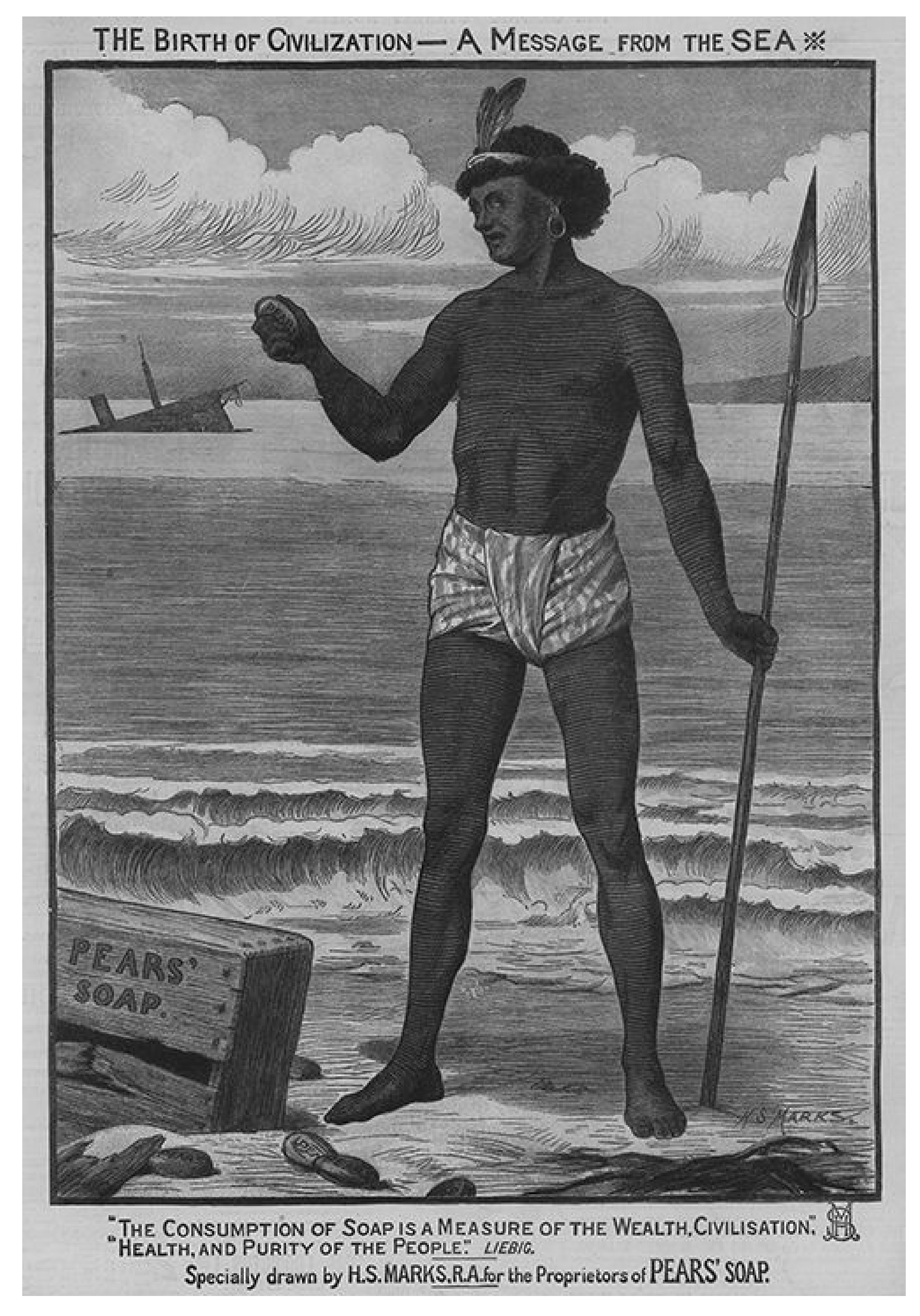


Figure 2.2 'The Birth of Civilization', Advert for Pears' Soap, 30 April 1890, *The Graphic*, London. Beinecke Rare Book and Manuscript Library, Yale University

Was nineteenth-century British consumerism closely linked with symbolic representations of imperialism? There are, as noted above, examples through

which the rhetoric of Empire was clearly employed through the medium of advertising. Yet other historians, more famously Bernard Porter, have argued that it is difficult to determine the extent to which the British public were influenced by such advertisements and the imperial messages they conveyed. The presence of imperial imagery in British advertising, together with the pervasiveness of imperial themes amongst the British masses, has been greatly simplified and exaggerated: given that only approximately 5–10% of adverts carried imperial overtones, it is difficult to argue that marketing strategies had a significant impact on the views of ordinary people regarding imperialism.[101] Put simply, imperial ideologies conveyed through advertisements are seen to exert only a marginal influence.[102]

Comments/evaluation

Advertisements have been identified as a means of visualising Imperial discourse. The culture of empire – as represented through use of imperial images and icons – was widespread in late nineteenth/early twentieth century British society, and through marketing campaigns people absorbed numerous implicit imperial references. However, the study of imperially-themed British advertising materials must draw the historian to consider questions concerning the extent of the pervasiveness of imperial attitudes. As demonstrated by the Porter–MacKenzie debate, such source materials on their own are highly problematic. The imagery and words of late nineteenth-century British advertising meant that the British Empire was an important aspect of British advertising, but it is difficult to assess the success of such advertisements in invoking patriotism to sell products: imperial advertisements were not as widespread in the British press as parts of the historiography have suggested, and the impact that such material had on the everyday lives of the British population is highly questionable. While we can argue that the images of empire rendered through advertising constituted a strong propagandist influence in people's lives, it is extremely difficult to recover the full complexity of imperial ideologies from the advertisements themselves. Awareness of the limitations of such source materials also requires us to make a distinction between the transmission of specific theories and casual iconographic associations. While an image – such as the advert for Pear's Soap from April 1890(figure 2.2) – suggests that ideas

about racial superiority/inferiority were acceptable, it does not automatically prove that such ideas were fully understood or accepted by the observer. If anything, the most valuable use of the study of imperial imagery in advertisements is the insights they provide into the motivations of the advertisers themselves.

Case Study 2: Political posters and economic cultures: Free Trade v. Tariff Reform

The turbulent political landscape of the late Victorian/Edwardian Britain was the product of the fierce debate between supporters of free trade and supporters of protectionists (tariff reformers). The entrenchment of *laissez-faire* politics from the mid-nineteenth century had linked free trade with British national identity, while also serving to popularise ideas of freedom and social emancipation.[103] By the beginning of the twentieth century – and particularly between 1903 and 1914 – the message of free trade was opposed by growing calls for protectionist measures (built around a system of import duties and imperial preferences) as a means of dealing with anxieties about the weaknesses of Britain's economic/political position.[104] Within this debate, the growing presence of the working classes in electoral politics – following the 1867 Reform Act and the 1884 Representation of the People Act – meant that political parties were required, more than ever before, to appeal to the masses. Political posters were a direct manifestation of this new reality, and so exemplify the political/economic culture of Edwardian Britain. The increased dynamism of British political debate in this period meant that political posters served as a powerful means of presenting opposing economic messages and political ideologies.

Consider the juxtaposing illustrations presented in 'Free Trade and Protection' (see figure 2.3). The images offered here – a free trade shop and a protectionist shop set side by side – convey a powerful political message to the consumer around the benefits of free trade. The free trade shop is depicted as having abundant and varied foods at cheap prices, and as a consequence is full of customers. In sharp contrast, the protectionist shop offers a gloomy picture of limited stock at higher prices.[105] The image is powerful in criticising the limited outlook of protectionism, and seeks to

reinforce the message that cheap imports under free trade conferred benefits on all members of society (irrespective of wealth, social class or gender) and so was essential to long-run consumer and business prosperity. One notable feature of the poster is the considerable differences in prices between the two shops. For example, 1*d* in the free trade shop would enable the consumer to buy 20 eggs, compared with only 12 in the protectionist shop. The possibility of higher prices under protectionism led to the Conservative Party being labelled the party of 'dear food', and did the party considerable electoral damage, especially amongst the working-class electorate.[106] The cobweb in the protectionist shop window further reinforces the message that tariff reform offered a bleak future.



Figure 2.3 Free Trade and Protection, Liberal Publications Department, 1905–1906. Tariff Reform posters provided by LSE Library, available under CC BY-NC-SA 3.0 https://digital.library.lse.ac.uk/collections/posters/politicalandtariffreform.

Another poster – entitled 'Free imports have made Britain the dumping ground of all nations' (see figure 2.4) – highlights some of the key protectionist messages. In this poster we see caricatures of John Bull, Uncle

Sam and Kaiser Bill, who are used to represent the roles and motives of Britain, the USA and Germany respectively. The arrangement of the characters in the poster conveys a powerful visual image: Kaiser Bill and Uncle Sam are positioned in the foreground of the poster, whilst a rather pitiful looking John Bull stands alone in the background. This is accompanied by a limerick on free trade (in the lower right-hand corner) that begins: 'There was a young man of Berlin…' The images of a smug Uncle Sam and a caricature of Kaiser were part of the stock representations of foreign countries of the time, and ably demonstrates what Thompson has described as the 'visualisation of verbal metaphors' present during this period.[107] The portrayal of these three countries through such symbolism – particularly the idea of a diminished Britain through the image of a shrunken John Bull – highlights the nationalist tone to the protectionist message, and hence efforts to appeal to the patriotism of the British electorate. Supporting one's country by 'voting for tariff reform' was presented as the only means of reclaiming Britain's position in the world. The final emphatic line of the limerick – 'I don't see where Britain comes in' – illustrates the belief that lay at the heart of the tariff reform campaign: the need to protect British industry was directly linked with the need to protect Britain's international economic/political position.





Figure 2.4 Free Imports Have Made Britain the Dumping Ground of all Nations, Liberal Unionist Council, c. 1905–c.1910. Tariff Reform posters provided by LSE Library, available under CC BY-NC-SA 3.0 https://digital.library.lse.ac.uk/collections/posters/politicalandtariffreform.

Similar views can be seen in another poster – 'British Factory: closed through unfair foreign competition…' (see figure 2.5) – which again depicts the international threat to Britain's economic position. Here we see two British workers standing outside a 'British Factory' that has been closed through 'unfair foreign competition'. This is accompanied by a sign on the factory gate denouncing foreign competition and recommending the reform of fiscal policy. The message is simple: the fear of factory closures and increased unemployment means that the voter must take action, and protectionist policies are identified as the only (patriotic) solution.



Figure 2.5 British Factory: Closed Through Unfair Foreign Competition, Tariff Reform League, c. 1905–c.1910. Tariff Reform posters provided by LSE Library, available under CC BY-NC-SA 3.0 https://digital.library.lse.ac.uk/collections/posters/politicalandtariffreform.

Comments/evaluation

The power of this pictorial propaganda can be seen in its ability to draw out many of the central themes of the free trade/tariff reform debate of the early twentieth century. Two different perspectives are clear here:

Protectionism

Looking at the controversy from a protectionist perspective, political posters provide historians with insights into:

1. anxieties about Britain's economic decline at the turn of the century.
2. the use of national stereotypes in responding to that anxiety.
3. the use of the politics of patriotism in attracting working class support.

Free Trade

When considering these posters to understand the free trade perspective, the historian is able to explore:

1. the vivid presentation of the anti-protectionist message.
2. efforts made to demonstrate the continuing benefits of free trade to all sections of society.
3. anxieties about the impact that protectionism would have on increases in the price of imported food.[108]

As historical sources, such posters clearly offer insights into socio-political issues (particularly the sharp ideological divisions) and the efforts that different political groups went to in their efforts to sway public opinion regarding tariff reforms.[109]

[Chris Godden]

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2.7 Archaeology, landscape, objects: Pipes and painting and the like

Crucial – although much neglected – are archaeological and object sources in economic history. They offer opportunities for scholars of a range of fields, whether by providing material context to well documented developments or making it possible to bring to light the economic history of people whose documentary traces are limited or non-existent.[110] Indeed, the history of objects currently is a trendy fashion in the historical sciences, with a separate *Routledge Guide* devoted to its method and study.[111] For these reasons the following will be kept brief; with two subsequent chapters studying the history of materiality and how this can be related to the history of capitalism in more detail (chapters 7 and 9). But it needs to also be stressed that the history of objects has in many ways stopped short of going full throttle, leaving important gaps instead, especially relating to economic history, numismatics and coins, and the study of economic life, which are largely missing from this new hype.[112]

Historians typically have a strong focus on textual sources. This can lead to an overestimation of the contribution made by material, intellectual and political developments including technology to historical change which might also have been shaped as a response to specific climatological and geographical challenges. Crucial in this process and also historical analysis in a more general sense – although much neglected – are archaeological sources in economic history. Objects and material sources are nowadays often limited to the study of 'big men' (and sometimes women), how they dressed and what they consumed in daily life; very much reflecting the tastes of the upper classes.[113] Much less known are fashions of the lower classes, albeit studies using evidence of testaments and probate inventories have become more widespread in recent years, without doubt stimulated by major studies in the history of consumption and key works in the field by scholars including Jan de Vries, Maxine Berg and many more.[114] There is an immediate and very intuitive dimension to this: knowing what people consumed, wore or ate or drank immediately makes us feel sympathetic to and sensitive of what they were and how their economic lives unfolded.

Accordingly, many recent studies have focused on the individual and her consumption habits, mentality and sentiment. The story, however, can be drawn on a much larger scale: objects and their archaeology can tell us a lot about bigger patterns of trade, economy and societal organisation, trade flows, international and global exchanges. As early as 1967, Sally Humphries highlighted the potential for archaeological research to change our understanding of the Roman economy, suggesting how it could reveal 'forms of production and exchange, patters of settlement, cultural interrelations […] excavation of new types of site (farms, workshops)'.[115] Whether in the ancient world or the more recent past, the potential for archaeology to change our understanding economic history remains strong.

From the perspective of mapping broad trends in economic development and growth, the material record presented through the volume of particular goods, their density and the context of their use can be very helpful. Ceramics for instance can give us precious information on quantitative aspects of commodity exchange in premodern or certain non-western modern societies. As standardised containers served the trading and transportation of loose or liquid bulk goods, fragments of them may give us an indication of the sizes and flows of everyday economic exchange.[116] Likewise, studies of Akan gold weights in West Africa have been able to identify a system for exchange that was unique to the region, as well as its social and cultural context.[117] In a similar vein, in numismatics, coins can be studied as artefacts and described in detail with the appropriate terminology (iconography) and these findings of, for instance, motives can be analysed concerning their semantics (iconology) (see chapter 9). To take agriculture and urban development as one common, global phenomenon, archaeological studies present an opportunity to examine economic development in contexts ranging from Kohala island in Hawai'i to the Yangtze and Yellow rivers in China.[118] To do so, archaeologists can interpret specific material drawn from these locations as well as undertaking broad geographical surveys, employing, for instance, aerial survey using ultraviolet, infrared, ground-penetrating radar, LiDAR (Light Detection and Ranging – essentially airborne 3D laser scanning of a landscape) and thermography.[119] Or, to use one example related to ancient Mesopotamia, the use of stable carbon and nitrogen isotope analysis of charred grains has been used to reconstruct the

conditions under which crops grew, building up a picture of how farming practice changed over time and demonstrating the relationship between agricultural innovation and urban growth.[120] Alternatively, archaeological evidence can help us understand the growth of urban sites through the diffusion of agricultural activity and animal husbandry in their hinterlands.[121] In Banda, for instance, in what is now northern Ghana, archaeology has helped reveal the shape, structure and economic specialisation of an abandoned town that once served as a vital entrepôt – or trading hub – for the trans-Saharan gold trade.[122] Through these means, economic history can build in archaeological studies in places and times that might not immediately lend themselves to its study.

Furthermore, archaeological examinations of specific agents, rather than broader trends, have been used to examine topics ranging from the impact of social exchange on development in different regions of the Roman Empire to the impact of human subsistence mechanisms and economic activity on social complexity in eastern North America.[123] Through such information, archaeology can help develop our understanding of production, exchange and consumption of goods in societies across the world.[124] For instance, the distribution and exchange of household goods, that rarely appear in sources like customs records or trade disputes, can reveal the importance of low-profit exchange for developing economic communities and social networks.[125] Taking this a step further, sophisticated techniques, such as Optical Emission Spectrometry (OES – especially for identification of foodstuffs) or Neutron Activation Analysis (NAA – for examining elements that comprise artefacts), have been used to identify where products were made and grown, where they travelled, and how they were used and consumed.[126] Such methods have been used, for example, to demonstrate the range and density of trading networks in the Baltic Sea to identifying the likely presence of Patawomeke women living within the early English settlement at Jamestown in Virginia.[127] Through these means, the archaeology of trade and exchange identifies how material moved across different geographies, cultures and states. Thus even the bigger picture of production, trade flows and policy, economic regulation and commercial policy can be reconstructed on the basis of seemingly mundane ‘small’ objects of everyday life.

The history of objects and materiality therefore can give us a wide range of insights, ranging from what people bought, wore and consumed, up to the political economies of daily life. Just consider clay pipes as an example of an understudied yet widely consumed item in early modern Europe. From the sixteenth century onwards when the first Spanish ships had returned from their voyages across the Americas they brought and introduced the habit of tobacco consumption into Europe, by means of smoking (and later on also chewing and snuffing). Whilst the snuffing of tobacco became an epithet of the upper middle classes and their ostentatious consumption habits during the Enlightenment and polite culture mainly during the eighteenth century, smoking tobacco using cheap clay pipes became an enduring habit amongst the lower strata of society, as well. As Dutch paintings from the later seventeenth century demonstrate, smoking had even pervaded rural village society; in the Holy Roman Empire, it would have been soldiers of the multinational marauding armies that spread tobacco smoking across the German lands during the Thirty Years War.[128] Clay pipes were cheap and simply made and represented – contrary to porcelain pipes which remained an item of the upper strata – a cheap and affordable means of consumption. Being disposable and easy to break incidentally, they also represented one of the earliest forebodings of a later capitalist 'throwaway' culture.[129]

Paintings may give us a visible glimpse of what material culture looked like during the early modern times in the Dutch 'Golden Age' across most of the sixteenth and seventeenth century – albeit like any other sources, paintings as a source are not without their traps and slippery slopes which the historian must pay ample care and attention to. At that time the Netherlands and in particular its leading province of Holland advanced to the richest region in early modern Europe, arguably the world.[130] Dutch society was commercialised and urban; towns and city life represented somewhat of a normality. Dutch social and domestic life unfolded in towns with large stone houses and domesticiles that often were furnished with household goods, furniture, cutlery and other material items and durables that in other regions and societies still deserved to be called rare and luxurious. Even though Calvinism – the prevailing faith in the Netherlands – strictly speaking put a ban on ostentatious displays of wealth, emphasising the nature and virtue of inner sanctity and the belief of predestination instead – Dutch burghers, artisans and urban dwellers nevertheless developed a taste

for fashion in garment and furniture, as especially the development of the early modern art market demonstrates. Thousands of master painters set up their workshops, as a growing number of urban middle class people began to demand paintings that were inexpensive and nice to look at. These paintings were hung in the domestic spaces; they were increasingly crafted in a serial manner, with endless repetitions of the same patterns or basic motives (Adriaen van Velde for instance, one of the more successful names in the game around the middle of the seventeenth-century, seems to have specialised in cattle and rural scenes, whereas others such as Gerrit Berckheyde, tended to paint urban churches such as St Bavo in Haarlem over and over again). Around the middle of the seventeenth century ice landscapes of frozen lakes and rivers seem to have been particularly prevalent, which ties in with the notion of this time as a period of 'Little Ice Age', global cooling and a reduction in sunlight and activity commonly known amongst Meteorologists and climate historians as the 'Maunder Minimum' (see section 2.10 this chapter). The Dutch art market and record of genre painting thus replicates the climatic record of the age. Nevertheless, this does not mean one can take paintings as one-to-one accurate depictions of the materiality of domestic and public economic spaces. Objects and actors in the paintings were often arranged in a particular fashion to convey specific messages, for instance the role of piety or even gender stereotypes of what constituted a good marriage, a well-ordered household or a 'good' spouse and wife and so on. Messages found in paintings may be hidden, and in any way have to be decoded accurately in order for them to make historical sense as historical sources.[131]

[Philipp R. Rössner and Edmond Smith]

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2.8 The human body as a source: Anthropometrics

Anthropometric evidence includes data collected from – usually military – records on people's heights and body weight. Information on patterns of growth can yield important conclusions on what and how much people had to eat; this in turn tells us something about their standard of living. People who go hungry or starve regularly, for protracted periods of time, or during a crucial stage in their childhood, youth and adolescence before they have reached the age at which their body stops growing will be smaller on average in later years than the average in their age cohort or what the average metabolic laws of biology would predict. This process is called *stunting*. Indeed, scholars have found traces of this mechanism in records from Austrian and German lands as well as across Europe during the process of early industrialisation. This has often led to the conclusion that in the later eighteenth and during the nineteenth century the average population, but in particular poorer members of society, workers and paupers – at that time the majority in many countries – experienced a decline in the standard of living.[132] Friedrich Engels, in his *Condition of the Working Class in England* (1887) came to the same conclusion looking at the physical and architectural evidence of the built urban environment of their age, visiting the slums and workers' quarters in the exploding 'smoke cities' and 'shock cities' of the age, including Birmingham and Manchester.[133] Anthropometric data however, have their own problems and are sometimes fraught with difficulty of interpretation. For one, most data used by historians comes from a military background, as it was the army where serial records on people and their body measures were most likely kept and collected in a systematic manner. The statistical representativeness of such samples can accordingly be biased, as many armies would operate minimum height for potential recruits, biasing the sample towards larger built people. Accordingly, such samples may not accurately reflect the height distribution across the entire population. Nevertheless, Noble Prize economist Robert Fogel has once estimated on the basis of anthropometric evidence that about one fifth of the French population on the eve of the French Revolution would have been structurally undernourished, unfit to work for more than two or three hours per day at one time – insights which none of the usual written sources or

archival documents normally give us, at least not directly. This information needs to be retrieved using advanced statistical techniques and lots of historical inference and economic theory but once again shows how both – economic theory and econometrics on the one hand and historical method on the other – can fruitfully be married.[134]

[Philipp Rössner]

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2.9 Geography, climate, physical data

While historians typically rely on the close reading of textual sources, interdisciplinary engagement with scientific and digital advances have opened new avenues for *longue durée* and macro-historical analysis. Conjectures about long-term economic and demographic change that *Annales* historians pieced together from documents can now be corroborated through physical data. For instance, Geoffrey Parker's global history of the 'seventeenth-century crisis' utilises documentary sources and data gleaned from ice cores, tree pollen, tree rings and groundwater deposits to attest that global temperatures significantly cooled in the mid-to-late seventeenth century. This 'Little Ice Age', in turn, incurred decades of famine, war and instability that de-stabilised societies across the seventeenth-century world.[135] Parker's conclusions partly rely on climate proxy data that he terms the 'natural archive' – the findings of glaciology, palynology (the study of pollen), stratigraphy (counting of layers in ice cores and tree rings) dendrochronology (study of tree ring data) and speleothems (cave formations formed from groundwater deposits). In the last two decades, interdisciplinary research into climate proxies and documentary evidence has advanced into thousand-year climate and weather reconstructions; the measurement of climatic impact on pre-industrial agricultural productivity, health and migration; and the large-scale collection of case studies of climatic variability. New dendrochronological research has proven that a period of abnormally warm and wet weather preceded the rise of the Mongol Empire and its grass-dependent mounted armies.[136] Chemical analysis of water in a Mexican lake has uncovered evidence of significant drought conditions in the ninth and tenth centuries that may have triggered the collapse of the classic Maya civilization.[137] Altogether, advances in climate sciences and interdisciplinary collaboration have added structural contexts to conventional historical topics while also highlighting the continuous vulnerability of human societies to environmental change.

The advances in climate reconstruction and proxy data collection coincide with the rise of new digital tools that have expanded the scope of the historical profession. Most notably, Geographic Information Systems (GIS)

software has allowed historians to transcend the limits of documentary sources. GIS software permits historians to systematically map, visualise and analyse data gleaned from historical sources across spatial and temporal scales, thus enabling the observation of previously undetected patterns and connections. For example, Michael McCormick uses GIS to reconstruct the making of the European economy between 300 and 900 CE. By connecting layers of data – shipwreck locations, pilgrimage routes, archaeological findings, diplomatic missions and merchant voyages – McCormick finds that a coherent and vibrant European economy had formed by the end of the eighth century, far earlier than previous scholarship had acknowledged.[138] Brian Donahue unearthed data from eighteenth- century New England taxation records, legal depositions and deeds in order to track land-use changes over time on GIS software. He discovered that, contrary to older assumptions that New England farmers were profligate degraders of land, GIS mapping reveals a complex network of agricultural commons, mixed husbandry and woodland usage that sustained New England agriculture into the mid-nineteenth century.[139] Ruth Mostern has utilised GIS tools to unveil how China's Song dynasty structured its administrative order in accordance with shifting military and economic priorities and resource constraints.[140] By establishing clear links between changes in spatial organisation, political authority and broader social and environmental contexts, Mostern's work belies older assumptions about the institutional staticity of pre-industrial regimes. McCormick, Donahue and Mostern's studies are testaments to the effectiveness of GIS tools in elucidating complex processes of environmental, economic and administrative change. Wider application of historical GIS methods across regions will depend upon the collaborative collection of spatial data from institutional and geographic sources, particular for pre-industrial contexts.

[John S. Lee]

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3 How to read economic history sources quantitatively

Georg Christ, Nuno Palma, Edmond Smith and Aashish Velkar

3.1 Weights, measures and historical commodities: Historical metrology

For historians analysing economic and business sources it is often essential to understand prices and quantities of products or commodities expressed in volume, weight or standardised pieces, parcels or standardised containers. Even when data are apparently recorded in standardised measurement units, interrogating the prevalent practice of recording quantities in a particular historical period is an important element of understanding the source material. This is particularly so when historians attempt to convert quantities recorded in historical units into present day metric or imperial units. Throughout much of human history, measurement units used to record prices and conduct economic activity were based on the human form or closely related to the everyday human concerns. Thus, measurement units in many ancient societies as diverse as the Aztec, Roman or Indian civilisations were based on units such as the human 'foot' or an artefact like a 'basket' or 'cup' to measure everyday objects. The overall consensus in the literature is that the diversity of weights and measures has historically tended to disrupt internal trade through a detrimental impact on transactions and market exchanges, by creating uncertainties and raising transaction costs, erecting barriers to free trade, and ultimately inhibiting market integration. On the other hand the premodern systems or standards followed their own logics with local differences or variations being often the result of regional variations or peculiarity in quality and nature of the goods. Merchants were aware of this, considering this variation in weights and measures not necessarily detrimental. The idea of national or even international standards of complete homogeneity is a modern idea, and in most periods of recorded history commodity philosophies were different.[1]

During the Renaissance period in Europe there was a quest for more reliable – and legally enforceable – measurement standards. The sixteenth-century mathematician, Jakob Köbel (c.1462–1533), gave the following advice for constructing a standard length-measure:

> 'Stand at the door of a church on a Sunday and bid 16 men to stop, tall ones and small ones, as they happen to pass out when the service is finished; then make them put their left feet one

> behind the other, and the length thus obtained shall be a right and lawful *rood* to measure and survey the land with, and the 16th part of it shall be the right and lawful *foot*.'[2]

Thus, in this period too measurement units were connected in some way to the human body or to artefacts. Measurement units therefore continued to be based on objects that were easily accessible to most ordinary people – the human body or everyday objects – from which the measurement standards as artefacts could be replicated. Premodern measurement units were thus fit for very specific purposes, and they were prone to inconsistencies when the 'standardised' artefacts were used as a template to replicate measuring tools for daily use.

The following discussion is based upon British historical sources, but the general principles are equally applicable across other geographical contexts. In addition to human form, measurement units were related to the method of production, such as those in the cloth trades used to measure the width of the cloth. The *ell* and the *yard* were both used to signify the breadth or width of cloth as was produced on the looms.[3] Measurement units also represented the manner in which commodities were transported, reflecting the means as well as the method of transportation. *Wagon-loads* and *cartfuls* represented the method of transportation, whereas *sacks, scoops* and *vats*, signified the means of handling or distribution. Productivity signalling units included those that indicated the extent of land that could be ploughed in a day or by a team of oxen and horses.[4] Measurements based on such units captured the extent of human labour required in their production.

The highly specialised nature of historical measurement units implies that it is difficult to classify them neatly according to the physical property that they measured in terms of weight, volume, linear measure, etc. This is a particular challenge for historians trying to assemble datasets for quantitative analysis. For example, the *bushel* was a measurement unit linked to the *gallon* – a volumetric measure – in the thirteenth-century, which in turn was linked to the *pound* – a weight measure.[5] After the seventeenth-century, the *bushel* was mainly used for the measurement of dry goods such as seeds, barley, malt, fruits and vegetables, grain and coal. But without a reference to some specific context it was never unambiguously clear whether it was used as a unit of weight or volume. Depending upon the commodity being measured, the *bushel* was defined

using either a volumetric or a weight unit. Whilst it was used to measure coal (the *coal bushel*), the *bushel* was also used to measure fruits and was equivalent to 33 *quarts* or 4 *pecks*. In contrast, the *bushel* used to measure wheat, rye, barley, oats, flour or salt was based on a unit of weight and was linked to the *pound*.[6] Not only did the nature of the *bushel* unit depend upon the commodity being measured, it also varied between geographical locations. The *bushel* used to measure potatoes in Cheshire, Derbyshire and Lancashire was equivalent to 90 *lbs*, whereas in Leicestershire it was equivalent to 80 *lbs*, in Surrey it was 60 *lbs* and in Middlesex it was 56 *lbs*. Wheat was measured in Cheshire and Liverpool using a *bushel* of 70 *lbs*, but in Stockton it was equivalent to 60 *lbs*. In Cheshire and Liverpool, barley was measured using a *bushel* of 60 *lbs* whereas in Devonshire it was measured using a *bushel* of 50 *lbs*. In Penrith, potatoes and barley were measured using a *bushel* of 20 *gallons*, whereas in Staffordshire and Shropshire barley was measured using a *bushel* of 9.5 *gallons*. Barley was sometimes measured in Liverpool using a *bushel* of 34.5 *quarts* or 9 *gallons* (Winchester measure), whereas wheat was measured in Oxfordshire using a *bushel* of 9 *gallons* and 3 *pints*.

The diversity of measurement units is mirrored in ‘measurements’ based on them i.e. the information based on such units. ‘Measurements’ were produced according to prevalent practices, norms and conventions that varied according to context and geography. For example, many dry goods, including grain, fruit, coal, etc, were measured for sale using volumetric units using vessels that were round in shape. A common practice while measuring dry goods in this way was to form a heap such that the total quantity given would contain the amount within the vessel as well as in the heap on top. These practices were often regulated by legislation.[7] But they were not necessarily consistent, and dry goods were also measured using the ‘stricken’ measure, i.e. without the heap. Rules regarding the heap changed between the fourteenth and eighteenth centuries. The ‘extra’ amount included in the heaped *bushel* increased from about one-eighth of the physical measure, during the time of Henry VII, to about a quarter, during the reign of Queen Anne. The practice of heaping endured for centuries, initially as the privileges of the lords, kings and even the universities of Oxford and Cambridge, and eventually becoming a part of

commonly used measurements. Such practices meant that 'measurements' were highly approximate even when nominally invariable measurement units were used. Eight heaped *bushels* could contain the equivalent volume of ten, or more, or less, nominal *bushels*, depending upon the extent of heaping. Actual market practice differed from the law and sometimes eight heaped *bushels* were provided as if they were nine stricken legal *bushels*. Over time, the nine *bushel* measure had become common in usage and was given a name, the *fatt* (or *vat*). As a consequence, nine heaped *bushels*, or the *fatt*, became equivalent to ten stricken legal *bushels*. Such practices were common in many markets until the nineteenth-century, particularly in commodity trades using volumetric measures for dry goods such as coal and grain.

Whilst historians need to exercise care in simply collating prices for commodities and pay attention to the complexity of measurement practices, the variety of measurement practices can provide important insights into social and economic policies of the period. For example, consider the changing size of the bread loaf as was regulated by the Assize of Bread and Ale.[8] The assize specified different weights of loaves of bread for a fixed price of a farthing (a quarter of a penny) in inverse proportion to the price of a *quarter* of wheat. As the price of one *quarter* of wheat increased, the weight of a 'farthing loaf' was to decrease proportionately as specified by the assize. This mechanism ensured that a loaf costing a farthing would always be available to the poorest customers, even though they would receive less bread for a farthing when grain prices increased. Thus, buyers would in effect pay more for the same amount of bread, although they were expected to simply reduce their bread intake when grain prices rose. The assize maintained a constant price for a loaf of bread, but it adjusted for changes in value by changing the quantity available per unit of price. This mechanism established a relationship between grain price and weight for each type of loaf of bread and ensured that bakers would make a sufficient return despite the fluctuations in grain price, while the poor could still afford to buy bread. This was common practice across medieval Europe and not unique to medieval England.

Many historians consider the variability of historical 'measurements' as evidence of the existence of a 'moral economy' of the poor (as opposed to

the rich). E. P. Thompson, who is credited with the first use of the term, wrote that while measuring grain the poor were given the right to shake the measure 'so valuable was the poor man's corn that a looseness in the measure might make the difference to him of a day without a loaf.'[9] Other historians argue that such morality – to convey generosity – was not confined to the poor alone. Measurements that captured information about productivity, such as measures of land area were used to allow farmers disadvantaged by poor soil fertility or climate to trade on equal terms with those farmers fortunate enough to till richer or more fertile lands.[10] Whether as charity to the poor, or as generosity towards the less privileged, variable measurements were reinforced had legal backing, being accepted as customary market practices.

Nonetheless, the many different ways of measuring and measurement units could be used for opportunistic reasons. For example, merchants in the coal trade, as in trades involving other commodities such as grain, would benefit from the arbitrage the different measurements could provide; buy using a larger measure and sell using a smaller measure.[11] Consequently, states have historically attempted to regulate and systematise systems of measurements used in commercial and economic transactions, especially when taxation and other state revenues depended upon accurate measurements of products and commodities.[12]

Alongside the social demand for less arbitrary standards, the scientific quest for standardised measurement units was brought about by the cultural turn towards experimentation and precise observations as the basis for knowledge and discovery. During the seventeenth and eighteenth centuries there were several attempts to develop a system of measurement units that were reliable for those involved in science as well as the early bureaucracies of sovereign states of Europe. By the eighteenth-century, the interests of natural philosophy thus overlapped with the requirements of political economy driving the scientific efforts for standardising measurement units.

The convergence of interests was profoundly exhibited in the years leading up to the French Revolution where one of the popular demands was 'One King, One Law, One Weight, One Measure', a demand that fed into the principle of equality connected with that revolution. Revolutionary

ideals demanded that everyone be treated as equal in the eyes of the law and this principle was extended to weights and measures as well.[13] The French Academy of Sciences conceived of the metre project as the basis for developing an ultimate, eternal standard on which all other measurement units were to be based. The scientific aim was to disconnect measurement units from the human body, concern and conditions, and to make the standards universal, more objective, less arbitrary and almost impossible to misinterpret. The elite of the French scientific establishment, Laplace, Cassini, Borda, Lavoisier and Condorcet persuaded Louis XVI to commission this enterprise in 1789, just before the chaos of the revolution erupted.

In 1799 the French Academy introduced the French people to the new measurement units that they would henceforth have to use and abandon the standards used by the Ancien Régime. When the French people, who had asked for 'one law, one weight, one measure,' were asked to use the metric system for all their daily commercial transactions, they rejected it. Even those in civil service, including land surveyors, administrators and most government officials hated using the new unfamiliar measurement units. Napoleon Bonaparte was able to enforce them in Belgium and the Netherlands before the French authorities were finally able to get their people to begin using them in 1840.

During the nineteenth century, and specifically between 1850 and 1875, the metric system spread rapidly throughout Europe. For instance, metric units became the legal standards in Germany in 1868 and in Italy in 1861, coinciding with their respective political unifications. The endorsement of the international scientific community and the agreement of the French Academy to hand over the custody of the fundamental metric units to an international governing body, the *Bureau International des Poids et Mesures* (BIPM), elevated the metric measures from their national origins to an international status. The *Convention du Mètre*, a treaty between seventeen European nations in 1875, ensured that the metric standards spread rapidly throughout Europe and eventually to other parts of the world. By the twentieth century, most industrialised countries in the world had switched over to metric measurement units, and by 1975 almost all countries with the exception of the USA and Britain were using this

measurement system as the only form of legal standards. The metric system's rival, the English imperial measurement units using feet, pounds and gallons, were also standardised in the early nineteenth century, and by 1960 even these non-metric units were being calibrated to the metric units. In 1960, the metric system was renamed as *Système International* or SI and forms the basis of international measurement units accepted across the world today.

As repeated attempts by authorities to enforce uniform weights and measures remained largely unsuccessful until the nineteenth century in Europe and until much later in the twentieth century in most other parts of the world, market transactions continued to be based upon a host of local, regional or customary measurement units. The units often bore little resemblance to other similarly termed units, in adjacent localities or those used in other parts of the kingdom, principality or province. The diversity may have appeared confusing to the outsider, but this situation did not totally inhibit trade between markets using vastly different measurement units. Merchants, middlemen and dealers would regularly use published dictionaries or tables to convert between different weights and measures. Often the travelling merchants themselves acted as the translators between local measures, relying upon local norms or market rules to convert from one measure to another along established trade routes.[14] Examples include the litany of directories, dictionaries, descriptions and tables of weights and measures for the commercial traders for the Indian ocean region, including Thomas MacCauly, *Indian Traders Complete Guide to Coins, Weights and Measures* (Calcutta, 1819); Thomas Thornton, *East Indian Calculator* (London, 1823); James Bridgenell, *Indian Commercial Tables of Weights, Measures and Money* (Calcutta, 1852). Patrick Kely's *The Universal Cambist, and Commercial Instructor* (London, 1811) is an important source covering many different parts of the world, not just the Orient. For the twentieth century, the *World Weights and Measures Handbook* (1955) published by the UN for use by their international staff to enable conversion of 'magnitudes, quantities and values' from the thousands of local units in use worldwide to the metric equivalents, is an invaluable source.[15]

More formal institutions developed to ensure that proper measurements were meted during delivery or exchange of commodities. Measurements in

markets that were monitored by inspectors appointed by local authorities was an important governance mechanism, especially in transactions involving essential commodities such as coal and grain. Rules of verification also emerged to manage measurement issues, particularly those related to measurements of quality. The practice of using the 'count' as a measure of fineness of silk thread or cotton yarn, suggests that trust in measurements often depended upon adherence to locally known market norms, customs and conventions. These norms were not enforced by public authorities but by merchant associations or commercial guilds to coordinate transactions, structure contracts, and generally to avoid confusion. Both the public and private institutions created records of such practices, in the form of surveys or records of arbitrations or disputes. British parliamentary reports such as *Report from select committee on the sale of corn* (BPP 1834 Vol. VII), *Summary of returns by corn inspectors* (PP 1878–79 Vol. LXV) are examples of sources detailing local measurement practices. Archives of trade associations such as those of the London Corn Trade Association or Manchester Chamber of Commerce contain arbitration records of disputes involving measurements between contracting parties detailing measurement practices, norms and customs. Trade journals such *The Miller* or *Ironmonger and Metal Trades Advertiser* often contain reports, letters or surveys detailing measurement practices and norms.

In conclusion, historians pay particular attention to the social norms, customs and practices when assembling quantitative datasets on historical prices and quantities. Even when data are seemingly recorded in standardised measurement units, interrogating the prevalent practice of recording quantities is an important tool to understanding the source material. This is particularly so when converting quantities recorded in historical units into present day metric or imperial units. As a corollary, the plethora of non-standardised norms, customs and measurement practices reveals a great deal regarding the social relationships, how economic activity was made visible, the ways in which people were held accountable for their actions and about the process of commodification of things.

[Aashish Velkar]

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3.2 Network including social network analysis

Historical societies were a 'tangled, messy, skein of overlapping and intersecting social networks', and within this environment, individuals relied on a variety of different communities in their daily lives.[16] Historians use several analytical approaches to examine social groups, communities and networks of people as organisational structures to reduce transaction and information costs of economic coordination. A great strength of network analysis is that it presents an opportunity for historians to 'peek under the hood' of seemingly monolithic institutions such as states or companies, gaining an insight into the lives of the people who operated within them.[17] Network analysis also offers tools for historians to tackle topics that are more complex than simply identifying who traded with whom or sold what where. By considering the networks of interaction and exchange between individuals and institutions, historians are able to break down some of the barriers presented by traditional institutional approaches to economic and social history and develop a clearer understanding of the relationships between individuals, groups and communities.

Analysing networks of kinship and family, religious groups, and ethnic communities, historians have been able to establish how social groups were able to overcome fundamental problems that arose in the course of economic exchange. Networks enabled individuals and groups to manage the costs associated with economic exchange including costs of locating and obtaining commercial information, monitoring competitors, appraising investment decisions and developing key business strategies.[18] Importantly, many networks straddle national boundaries and operate across political jurisdictions thereby enabling historians to garner the networks of capital and credit relations at an international level.[19] Additionally, analysis of personal or 'ego-documents' has been used by some historians to interrogate how ideas and experiences shaped the actions, thoughts and behaviours of individuals within a network.[20]

Historians have demonstrated the importance of friends, neighbours and colleagues in shaping individual choice, which would be brought about not only through the natural clustering of people in direct contact but also

through the diffusion of ideas and their impact on decisions through word-of-mouth communication.[21] Other studies of families and kinship ties have shown how these networks provided a pool of labour, capital and talent (entrepreneurial, technical or managerial). Successful family businesses reinvested profits back into the business and financed growth internally, making them important sources of capital and finance.[22] Family and networks of kinship also ensured continuity of businesses beyond death of 'founder-entrepreneur'.[23] In the context of family and networks of kinship, historians have been able to locate the economic importance and place of women who are usually absent from more formal sources of historical record.

Apart from informal networks, studies of 'formal networks' such as commercial and industry associations, commodity exchanges, political parties, etc. can help demonstrate and assess the complexity of decision making and how individuals used such institutional structures to make decisions and determine policies. Membership lists of such formal networks and the mundane records of meetings, memorandum memoranda and networks of correspondence allow historians to link individual behaviour to larger macro-level outcomes and helps make sense of collective or aggregate behaviour.[24] Such sources have allowed historians to understand how networks and institutions intersect, how control and coordination of economic activity occurs, how organisations are able to build trust and reputation, ensure credible commitments, enforce contracts, prevent opportunism, reduce risks and lobby for legislative changes.[25]

Another approach from international political economy or international trade is to examine the networks of relationships along 'global commodity chains' (GCC) to understand the mechanisms of coordination in the context of getting the commodity from its source of production to the eventual consumer. Such GCC analysis not only helps us to understand how different social groups were connected both economically and socially – who did what – but it helps us to also identify the loci of control along international trade routes. GCC methods do not assume that coordination and control depend upon the ownership of productive resources, unlike some other approaches such as *the dependency theory* or the *world systems* view where control of global trade is often equated with international control of

productive facilities or resources. The major insight from the GCC literature is that industrial and commercial capital may promote global integration without direct ownership by establishing distinct forms of coordination along networks of groups associated with a commodity at different stages of value-addition. Thus, a global commodity chain may be ‘trader-driven’, such as those controlled by merchant groups in the nineteenth century or earlier, or supermarket chains during the twentieth century and later. Such chains may depend upon shifting, ‘highly filamented’ networks of trade and finance combined with more permanent networks of production and labour.[26] Analysis of international networks is useful in answering questions about global trade and economic integration such as the convergence of commodity prices and the extent to which such price convergence coincided with the emergence of specific international institutions such as commodity exchanges.

Network analysis can therefore reveal how economic institutions were socially embedded and how people within the network made decisions. It permits historians to place individual decisions and behaviour in the context of larger aggregate level outcomes. The application of network methodology, particularly quantitative network analysis, requires considerable reliance on some complex analytical methods, and it is economists and sociologists who have developed a considerable methodological tool-kit for historians to use.[27]

[Edmond Smith]

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3.3 Databases and digital humanities including GIS and digital linguistics[28]

Databases are increasingly becoming an integral part of economic historical research. This section distinguishes functionally between two types of databases: the first type are databases that already exist in their final form, that is data-repositories usually available online that can be harvested by the economic and social historian for primary source material; for data to inform and support her research. The other type are databases constructed by the researcher herself in order to organise primary sources or materials which had not been compiled in a database by their original producers or their editors, that is data extracted from somewhere as a preliminary work-step to support historical analysis. The two can, of course, be entangled, that is a historian can mine existing databases for material to collect in her own database or she can develop her personal research database into a publicly accessible database. The two types present slightly different yet interlinked source-analytical problems, similar to those discussed in chapters 2 and 4: distortions of various sorts which come with any translation of an 'original' primary source into another text medium, be it a photograph, a transcription, or an edition. Yet in the case of databases this is often aggravated by a more forceful de-contextualisation and homogenisation of the material.

Online databases are expanding rapidly and are usually made available through the websites of learned societies, e.g. the *Economic History Association* (US)[29], or through dedicated online provisions by university libraries[30] and last but not least research councils, e.g. the UK Data Service.[31] Many of the newspapers mentioned in section 2.4 can thus be accessed in online repositories (see also chapter 10 in the second part of this volume). The challenges involved in using these repositories of data/information are to firstly find out about relevant databases and secondly to use them judiciously – i.e. to think carefully about how to search and explore them. The making of the database and design of the search function need to be considered as they determine what data the historian is likely to end up with.

Therefore, it seems useful to first have a quick look at how a historian can construct a database. Essentially, a database is a set of tables or datasets, i.e. a grid of columns and rows whereby each row represents a data entry with the identical types of data-points (columns). It helps to distinguish between three layers of a database. The first layer is the source layer, i.e. a dataset that would contain basic information about the sources more or less 'as they are' (provenance, format, digitisation, transcription, publication…):

Table 3.1 A dataset

Archive	*Series*	*Subseries*	*Record*	*Page*	*Link to digitisation*	*Notes*
Archivio di Stato Venezia (ASVe)	Senato	Deliberazioni miste	Vol. 3	45r	(…)	(…)
ASVe	Procuratori di San Marco	Commissarie miste	Busta 180	Fasc. X, int A, f. 120	(…)	(…)

The datasets of this layer organise sets of source material – further columns could further break down the collocation of archival material i.e. the files into their subdivisions, usually fascicles and internals or include columns with descriptors to categorise the source, i.e. what type of source it is (notary document, deliberation, letter, cf. chapter 4) and so on.

This layer alone would not much facilitate analytical research as it is only a library of source material. Therefore, we usually create a second type of dataset, the standardisation layer. This layer helps us extract data from the sources for the purpose of our analysis. One of the most obvious categories of data you might want to extract from your sources is information on people. A very simple example of a dataset standardising such data could look like this:

Table 3.2 A prosopographical dataset[32]

Title	*First Name*	*Last Name*	*Profession*	*Residence*	*Occurrence in sources*
Donna	Catarina	Morosini	Wife and head of House	Venice, Santa Marina	ASVe[32], Senato…
Messer	Polo	Morosini	Merchant	Candia	ASVe, Senato…
—	Gianni	Rossi	Oarsmen	Burano	ASVe, Proc. Di S. Marco…
Mag. Vir.	Lorenzo	Donato	Senator	Venice, coordinates x/y	

This kind of dataset would be called a prosopographical dataset, i.e. a table containing relevant biographical or personal data for specific individuals. The problems in setting up even such a primitive database are enormous. Start with the seemingly most unproblematic element: the place name. Firstly, we have to consider what to include – if we have only one text field to contain this, we have to make a decision. Do we include only Venice or also the parish (this certainly would make sense if we dealt with a lot of Venetians and are interested in local/parochial affinities and solidarities)? Or are we working with coordinates? What about a merchant who had several residences – how do we capture that? Furthermore, places can change name and/or location: Candia in the example above is nowadays usually called Iraklion if it refers to Crete's capital but it can also refer to the entire island of Crete, i.e. Kriti. Another decision to take is whether to record places in the local language – which one if there are many – or English. Places can altogether disappear: Santa Marina as a parish does not exist anymore, as the Church was decommissioned and the parish merged with another in the early nineteenth century. Or places can change name over time – 'Berlin, ON' in Canada changed name to something more British 'Kitchener, ON' in 1916 because of World War One-related anti-German sentiments; 'Jerusalem' can appear as 'al-Quds', 'Bayt al-Maqdis', 'Yerushalayim', 'Ierosolyma', 'Aelia Capitolina' in the sources, depending upon the author's historical, cultural, linguistic or geographic background. Or cities can retain the name but change location as was the case with Alexandria in Egypt. And how are we dealing with relational or approximate information such as 'in the vicinity of' or 'in the street of the Franks'? All this presents significant challenges; the way data is recorded dramatically affects the outputs of a database.[33]

Names of persons are not any easier. Before the eighteenth century names were not normally standardised. In the sources ‘Catarina’ could also appear as ‘Caterina’, ‘Catrina’ etc. ‘Gianni’ is an abbreviation of ‘Giovanni’, and in Latin language documents (which prevail into the early modern period) the name would be usually rendered as ‘Johannes/Iohannes’. Venetians would not normally use the form ‘Gianni’ but ‘Zane’. What about ‘Polo’? This is again a Venetian, local form of the name ‘Paolo’, Lat. ‘Paulus’. Even today names from the Arabic-speaking world can be challenging as the proper name (*ism*) is only a small part of the entire name and can be a composite – Abdallah or Abd-ar-Rahman or Saif ad-Din etc. Furthermore, it is often unclear what to identify as family name – probably not the next element after the *ism*, which is the *nasab* (bint or ibn … i.e. daughter, son of …). Rather, it is the *laqab* (a, usually, inherited nick-, honorific or family-name) or the name of origin (*nisba*) that can also serve as family name (e.g. al-Yamanî – the one from Yemen), which is, however, rather generic and wide-spread.[34] How do we deal with that? Do we add an additional three to five columns to give room to this complexity (bearing in mind that one can have more than just one *nasab*)? Or do we make a decision ourselves on which name to settle?

One way of dealing with this problem is to work with a controlled vocabulary (or standards – hence: standardisation layer, our third) or, rather, a relational database. Relational databases are putting several tables/datasets or sub-databases into communication. This we have done already, of course, connecting the source layer to the first table of the standardisation layer (persons): the last column (occurrence) in the latter would link to the dataset of source material above. Thus, these two tables, together with a way of accessing and searching them, would be an example of a very simple relational database. We might have different datasets to pre-define possible entries for the various columns. There could be a dataset of Italian proper names whereby the record would list the standard form we chose to use (e.g. ‘Giovanni’) and all synonyms/variants such as Zane, Zan, Gian, Gianni, Johannes etc. The same could be done for families, place names, professions and titles.

We could even further complicate this by creating a relational database within, say, the place name category in order to group hierarchically, i.e. a

dataset of local names like Santa Marina and one of cities like Venice and counties, regions like Crete etc. thereby establishing hierarchical layers of place names. The advantages of a controlled vocabulary are obvious: it allows us to quickly look for all Morosini family members in the database or all residents of the parish of Santa Marina or all oarsmen as, in the latter case and without controlled vocabulary, one might take down the profession in the source language (*galeotto, nauta*, …) or in the language of the database (oarsmen, rower, galley slave …).

Not enough with these problems, which already require a complex related database to solve them. Usually we would be interested in what people appearing in historical sources and, hence, databases did: buy merchandise, get married, propose a motion in Senate, bribe an official etc. Thus, we would have to include yet another database – of events. Events normally are a record composed of the components (columns or data points) actors, place, time, type of event. The time stamp seems essential to an event and recording time presents another complex set of problems: if we are looking only at recent and British material this might not pose major problems, for all items (say, in a parliamentary records or newspaper database) will be dated according to our current system. But go back and research a database of documents e.g. from the Islamic world, using the Hijra calendar, or from Tsarist Russia, using the Julian calendar, and things will get messier: have all dates been converted to our specific modern calendar or 'Common Era', i.e. the Gregorian, *ab anno circumcisionis domini* (that is of years starting with the 1 January) calendar. If not – how do we convert dates correctly? Nevertheless and despite a somewhat negative connotation of event-based history (*histoire événementielle*), events remain a crucial factor of historical analysis. Event databases can be populated manually but, increasingly, also automatically by algorithms scanning texts for time-place-person groups; a method which is obviously prone to produce shortcomings if the respective data is fuzzy.

Keywords are perhaps even trickier. They become more complicated the more you move away from the familiar – i.e. contemporary and domestic themes. Keywords, i.e. thematic headings working similar to the entries in an index leading to respective instances across the book by indicating the page of occurrence, are crucial in accessing huge databases. Yet they require a set of decisions that govern the subsequent processing of the data.

They form an ontological assumption about the nature, the very essence, of the topic in question, i.e. how a theme or field of knowledge can be divided into topics and subtopics all the way down to the single keyword. Hence, the process of establishing a set of keywords is a deeply analytical and even normative process. It pre-determines what is relevant about a topic and what is not. Therefore, keywords and their underlying ontologies have a massive impact on how we perceive a topic through a database, they decide what we read and how we read. Keywords, similarly to place names as mentioned above, can be (and, I would say, ought to be) arranged hierarchically, i.e. grouped under headings and sub-headings. This reinforces the potential of a ontology of classification by bringing order into the chaos (but, needless to say, it also reinforces the problems of ontology outlined above; it forces historical complexity into the straightjacket of a system).[35]

Economic and social history, as well as the history of capitalism, however, tend to go an important step further seeking to establish numerical datasets. Take the most innocent first: mint outputs. Even this relatively straightforward data is plagued by many uncertainties that might get lost in the translation from primary source to database: coins could be counterfeited or copied; they could lose in silver content thus raising the question to which extent the outputs of different years are comparable. If we take data more readily sought after by economic historians it becomes murkier still: salary data, certainly for the premodern era, can be treacherous: the monetary payment might only be a small fraction of the overall-remuneration, wages might be downplayed or exaggerated depending on the source type. They might be expressed in a coin going through massive changes in value etc. Balance of trade/trade volume data, say between Venice and the Levant garnered only from one type of source, such as notarial deeds or the documentation regarding the official galley and cog convoys, would be wildly unrepresentative: For, arguably, the bulk of trade was effected by smaller carriers about which we know much less and on which we have no serial data. Finally, data appearing in historical sources is highly dependent on context, which, typically, has already been distorted or even completely filtered out by the primary source reporting the information or *datum*. By reporting such a specific *datum* (piece of

information) from the source to a database, say a name of a trader and the commodity traded, we further isolate the *datum*, decontextualise it, make it seemingly (but perhaps wrongly) comparable to other data. This is problematic and has to be kept in mind as a constant caveat. Our suspicion and care have to reach beyond the traditional assessment whether a source is trustworthy or not; most sources tend to tell a certain story, and the narrator does not have to be negligent or wilfully lying to distort. Rather, they are fitting material according to certain principles and rules to an edifice and yet – this brings about a distortion, adds a bias and entails a loss of fidelity. Numbers produced in court by a particular party, for instance, might well be accurate in the sense that a blunt lie would not fly, but these numbers would still be presented within a wider narrative, in order to make the desired point. Although they might be 'correct', such data should be handled with care and not be taken at face value.

Full text searches seem to be the solution to a lot of the practical problems of retrieving a specific *datum* from big data. They are, however, a partial solution at best as they are suffering from the same problems of fidelity mentioned above – you would have to search for Zane, Zan, Gianni, Giovanni, Johannes to find a certain person and similarly difficult would be the search by place name, topic etc. This is the case with most data. Historical reality is infinitely complex; this complexity is already well reduced, inadequately reflected, filtered by the primary source. In order to make this primary source storable, accessible and retrievable, the complexity has to be further reduced through standardisation. Inevitably we lose, to an extent (the extent of the filtering, of standardising), touch with the sources, we reduce historical complexity to simple data points, we lose fidelity. In return there is, however, much to gain: we can manage big amounts of data, a greater quantity of sources, and we can do this somewhat systematically. We create a new complexity which gives us access to wider connections, overarching complex realities (albeit in a very imperfect and distorted way) that lead to new research questions, which qualitative micro-analysis of, naturally, very much selected material could not provide.

GIS stands for Geographical Information System and means basically the managing of geo-referenced information that can be then put out on a map, e.g. a map of England showing medieval castles. Clicking on the castles the user would find the information (in the various columns of the database) on

this specific castle. GIS applications remain, however, surprisingly limited regarding time series analysis i.e. showing dynamically how the castle-scape of England changed over the years. A GIS would usually consist of several layers; other than castles there could also be cities, highways etc. that could be shown in combination or separately.[36] Traditionally, it reduces spatial complexity by forcing reality into dots, lines or polygons thus making it difficult to represent, for instance, spheres of power fading from a centre to the periphery. Point-based heat maps are one among other ways to overcome some of the polygon's limitations.[37]

Digital humanities, according to the Oxford Dictionary, is 'an academic field concerned with the application of computational tools and methods to traditional humanities disciplines such as literature, history, and philosophy.'[38] This definition is contentious though and cannot mask the fact that there is a great deal of uncertainty regarding their role. In one way or the other, this mostly involves databases. This would even be true for fields that work with unstructured data such as computer vision (i.e. digital, algorithm-based recognition of objects or persons in images, including the optical character recognition of historic handwriting) or natural language processing (i.e. the automated transcription of spoken text or automatic translation and interpretation of texts). They all involve and are crucially based on powerful databases managing markups, identified object and annotations.

As databases, however, are not necessarily digital but can also be based on paper, e.g. index cards ('paper machines'), the field, in this sense, would be an old one and date back to, at least, Gessner's and on an even bigger scale Linné's slips and the Vatican archive's Garampi paper-slip catalogue and other such paper based databases.[39] Computer based digital humanities started in the first half of the twentieth century with computer-based processing of paper index cards in order to enhance access to corpora e.g. facilitate access to Thomas Aquinas's work. Then followed the digital annotation, marking-up of texts from the sixties leading to a harmonisation of standards used in the text encoding initiative with the xml markup language widely used today to create digitally annotated corpora. In the meantime, huge digital archives have been created that lend themselves to automated corpus analysis. One wide-spread application for such analysis is

the software ‘Voyant’ providing basic statistical analysis such as word frequency, clustering etc.[40] Somewhat more ambitious are applications and approaches that seek to engage in cultural analysis (culturonics, cultural analytics i.e. investigations of big data in order to assess how ‘culture’ works, changes). Another relatively wide-spread field is social network analysis, which basically means algorithms that represent prosopographic data (see above) in clustered clouds thus seeking to visualise and thus recreate links between actors, relations. One would almost struggle to identify applications that are not hinging on databases: 3D scanning could be one or computer tomography used in a (so far widely failed) attempt to read closed (e.g. damaged) volumes of text (although, there again, the acquired data is willy nilly kept in a database).

Digital Humanities is a booming field. This is not to say that necessarily in all fields much progress has been made in recent years or even decades, but money is invested and positions are created. This has produced a frenzy of ‘doing’ and ‘talking’ about digital humanities also in history – which, every so often, in the very end comes down to the building of a project database that, alas, often more or less disappears after the funding for the project has run out. Thus, the long-term storage and accessibility has been rightly identified as a major challenge. UK research councils now ask for data management plans seeking to tackle this issue. Other critiques are very much in line with the biases relating to databases discussed above and show, once again, that digital humanities in many ways are a bit of a red herring – digitisation seems to enhance the problems already inherent to nineteenth century index-card based systems. One problem outlined is ‘black boxing’, i.e. losing touch with the historical context, artificially sterilising data, falling out of touch with reality’s inherent messiness. Data by way of processing it, perhaps even more so if done automatically, i.e. by an algorithm, becomes seemingly solid, clean while, in reality, it remains random and biased as shown above; context information is lost in translation. Another related critique could focus on the inherent gimmickry of digital humanities applications, whereby opaque algorithms are used without proper source criticism producing smooth images camouflaging more messy and complex realities that thus remain so to speak hidden under the hood. Thus the conclusions drawn in line with these images should be

double-checked by qualitative analysis. What interestingly has not been achieved yet, although it would seem to be the most logical and urgent thing to start with, is to digitally re-engineer the full sophistication of a mature 'paper machine' (index card system).[41] This would have to include chronology, prosopography, basic GIS but also the possibility to spread and rearrange cards (cf. for a visual application Aby Warburg's pre-paper Mnemosyne Atlas), i.e. to provide modest but robust tools for the historian to support his basic analytical activities be they qualitative or quantitative.[42]

Despite all the listed shortcomings, I would recommend working with a database. It is not necessary to build one from scratch – you could work with an off-the-shelf solution such as Zotero, Citavi, Synapsen, Litlink etc.[43] Even if we are not thus building our own databases, however, we have to be mindful of the principles of database engineering for most, if not all of us, will use databases. In order to use databases judiciously, however, we have to understand how they work.[44] For, as should have become clear, databases (and Digital Humanities more generally) present us with great opportunities but also with important analytical challenges and, hence, risks. In order to get the best out of both worlds and to mitigate the risks of standardisation/serialisation (for instance in order to use the data for social network analysis), it should be de rigueur to always control the information thus obtained by a qualitative-historical source analysis (see chapter 4).

[Georg Christ]

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3.4 Statistical analysis

Historians can profit greatly from becoming more familiar with quantitative methods. Statistics, in particular, is a field naturally suited to support historical research. Even simple tables consisting of descriptive statistics such as conditional means and medians can be very informative in summarising data patters which would be otherwise difficult to interpret qualitatively.

I encourage all historians regardless of their field to invest in acquiring quantitative knowledge. Having said this, it needs to be understood that methods such as regression are not necessarily simple and need to be used with care. Even academic economists who specialise in quantitative methods often have fierce debates over what are the appropriate methods to use in particular situations.

Depending on the research question at hand, there are subtle but crucial differences in the type of models that must be used. It is critical to be well informed before using statistics, because conclusions will simply not hold if the wrong methods are used.

Rather than attempting the impossible of trying to explain a large variety of available methods here, I shall simply point the reader in the right direction. The nature and characteristics of the type of data one has at hand determine the right methods that need to be used. Textbooks are often organised in this way, too. Classic examples are Hamilton (1994) which covers time series analysis – which apply to situations where data for the same unit (for instance, a country) is observed over time – while Wooldridge (2010) or Cameron and Trivedi (2005) cover cross-sectional or panel data applications, which concerns data for a variety of units (e.g. families) observed either at one moment in time, or over time. Within all of these groups there are often other subgroups of data with special properties that need to be addressed in the methodology. For instance, data that has a geographical element to it has certain statistical features that require specific methods. This is because observations with given characteristics may tend to be physically closer to each other than others – think of how

people of high income and education tend to live in the same neighbourhoods, for instance.

Often we are interested in knowing counterfactuals. For some questions, this may be next to impossible. But economists have developed methods to answer counterfactuals for a much wider group of questions than one might have guessed possible. There are many certainly subtle matters which need to be reflected on with care in this very active field of causal inference (identification), and how it differs from simple statistical association (whether linear or not). This focus is largely what distinguishes econometrics as a body of knowledge apart from – though strongly complementary to – statistics. For excellent introductions which require some mathematical background, see Angrist and Pischke (2008), Dunning (2012), Stock and Watson (2018), and Wooldridge (2019). For gentler introductions see Feinstein and Thomas (2002), or Hudson and Ishizu (2016). All of this may seem daunting, and it is – which is why academic economists spend years of training learning these methods. But allow me to finish in a hopeful note. As an historian, you have knowledge about sources (not to mention potentially a better sense of the context) which can be a great advantage to you relative to the work that economists and other scientists do when they look at the past. Even just using descriptive statistics well can take you very far. Thread with care, but do not let yourself be daunted, and let the journey begin. It will be worth it.

[Nuno Palma]

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Notes

1 Aashish Velkar, *Markets and Measurements in Nineteenth-Century Britain* (Cambridge & New York: Cambridge University Press, 2012).

2 Jakob Kobel, *Geometrey*, (n.p. 1593, 1608); Peter Ransom, ‘The Right and Lawful Rood’, *Convergence* (July 2007) https://www.maa.org/press/periodicals/convergence/the-right-and-lawful-rood [accessed 18.09.2018].

3 Robert Dickson Connor, *The Weights and Measures of England* (London: HMSO, 1987), p. 87.

4 Connor, *Weights and Measures*, p. 37. Witold Kula, *Measures and Men*, trans. Richard Szreter (Princeton, NJ: Princeton University Press, 1986), p. 4.

5 Connor, *Weights and Measures*, p. 151. Both the *Tractatus de Ponderibus et Mensuris* and the Assize of Bread and Ale of the mid-thirteenth-century state that 32 grains of wheat make a *sterling* (penny) and 20 pence make an *ounce* and 12 *ounces* make a *pound* and eight *pounds* make a *gallon* of wine and eight *gallons* of wine make a *bushel* of London, which is the eighth part of a *quarter*.

6 The pound (*lbs*) equivalent of a *bushel* for these commodities was: wheat (56 or 57), rye (55), barley (49 or 50, in some counties such as Sussex it could be 53), oats (38), flour (or bread or biscuit – 42 or 45), salt (56, 65, 75 or 120, imported salt could be 84).

7 12 Anne Stat. 2 C.17, 1713. ‘Act for ascertaining the coal measure’ regulated the coal bushel. The statute specified the shape of the container representing the measure as well as the size of the heap.

8 J. Davis, ‘Baking for the Common Good: A Reassessment of the Assize of Bread in Medieval England’, *Economic History Review* vol. 57, no. 3 (2004): 468. The Assize was known as the *Assisa Panis et Cervisie.*

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28 I thank Joanna Taylor and Luca Scholz for their suggestions on how to improve this section. All remaining mistakes, however, are mine.

29 See for instance *Databases*, http://eh.net/databases/ [accessed 02.05.2019].

30 For example University of Manchester Library, https://www.library.manchester.ac.uk/search-resources/databases/ looking for 'economic history': https://www.librarysearch.manchester.ac.uk/discovery/search?query=any,contains,economic%20history&pfilter=rtype,exact,databases,AND&search_scope=MyInst_and_CI&sortby=rank&pcAvailability=false&vid=44MAN_INST:MU_NUI&lang=en&mode=advanced [accessed 02.05.2019].

31 *UK Data Service*, https://www.ukdataservice.ac.uk/; searching for ‘economic history’: https://beta.ukdataservice.ac.uk/datacatalogue/studies/#!?Search=economic%20history&Rows=10&Sort=1&DateFrom=1753&DateTo=2019&Page=1 [accessed 02.05.2019].

32 Archivio di Stato, Venice – most archives have acronyms, such as, in this case, ASVe. ASV is the Archivio Segreto Vaticano, GStA the Geheime Staatarchiv Preussischer Kulturbesitz, TNA are the National Archives (of the UK) in Kew.

33 Carmen Brando and Francesca Frontini, “Semantic Historical Gazetteers and Related NLP and Corpus Linguistics Applications”, *Journal of Map & Geography Libraries* 13, no. 1 (2017): 1–6; Katherine McDonough, Ludovic Moncla and Matje van de Camp, ‘Named Entity Recognition Goes to Old Regime France: Geographic Text Analysis for Early Modern French Corpora,’ *International Journal of Geographical Information Science*, 33:12, 2498–2522; on Alexandria’s relocation: Georg Christ, ‘Collapse and Continuity: Alexandria as a Declining City with a Thriving Port (13th–16th Centuries)’, in Wim Pieter Blockmans and Justyna Wubs-Mrozewicz (eds.), *The Routledge Handbook of Maritime Trade Around Europe, 1300–1600: Commercial Networks and Urban Autonomy* (London: Routledge, 2017), pp. 121–140.

34 The last type of Arab name would be the *kunya*, i.e. umm or abu, that is mother/father of … whereby this last category today can also be a nickname or honorific, e.g. Abu Nid’âl: father of trouble, the *nom de guerre* of Sabri Khalil al-Banna, founder of Fatah.

35 Geoffrey C. Bowker, Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences*, Inside Technology (Cambridge, Mass: The MIT Press, 2000).

36 Ian Gregory, *A Place in History. A Guide to Using GIS in Historical Research* (Oxford: Oxbow Books, 2003); Richard White, “What is Spatial History?”, https://web.stanford.edu/group/spatialhistory/cgi-bin/site/pub.php?id=29 [accessed 23/01/2020].

37 Luca Scholz, ‘Deceptive Contiguity. The Polygon in Spatial History’, *Cartographica. The International Journal for Geographic Information and Geovisualization* vol. 54, no. 3 (2019): 206–216; Joanna Taylor, et al., “Mapping Digitally, Mapping Deep:Exploring Digital Literary Geographies”, *Literary Geographies* 4, no. 1 (2018), https://www.literarygeographies.net/index.php/LitGeogs/article/view/120 [accessed 23/01/2020].

38 https://www.lexico.com/en/definition/digital_humanities, [accessed 15.08.2019].

39 Markus Krajewski, *Paper Machines: About Cards & Catalogs 1548–1929*, trans. Peter Krapp (Cambridge, Mass: MIT Press, 2011), p. 13; Staffan Müller-Wille and Sara Scharf, ‘Indexing Nature: Carl Linnaeus (1707–1778) and his Fact-Gathering Strategies’ in *LSE, Economic History: Working Papers in The Nature of Evidence: How Well Do 'Facts' Travel?* http://eprints.lse.ac.uk/47386/1/indexing%20nature%28author%29.pdf [accessed 23.01.2020], 4.

40 Other frequently used applications include Bookworm, MALLET and NLTK.

41 Krajewski, *Paper Machines*.

42 For two strong attempts to do this, see the above-mentioned applications Litlink.ch (which, however, sadly seems to be on its way out of the market) and Citavi – both, interestingly, based in Zurich. I contributed for a few years to the development of the former, i.e. conceptualising the glossary, events and object categories. See also Krajewski’s ‘Synapsen’ http://www.synapsen.ch/, for a digital Mnemosyne application, Lisa Dieckmann and Martin Warnke, ‘Meta-Image und die Prinzipien des Digitalen im Mnemosyne-Atlas Aby Warburgs’, in *Computing Art Reader: Einführung in die digitale Kunstgeschichte*, ed. by Piotr Kuroczyński, Peter Bell and Lisa Dieckmann (Heidelberg: arthistoricum.net, 2018), pp. 79–93. A more internet focused and robust database is Zotero, https://www.zotero.org/ [accessed 17/12/2019].

43 See note above.

44 Yanni A. Loukissas, *All Data Are Local*: *Thinking Critically in a Data-Driven Society* (Cambridge, Mass: MIT Press, 2019).

4 How to read economic sources qualitatively – source analysis

Georg Christ

4.1 Introduction

Historical, qualitative source analysis (in the West) was developed within the wider context of the development of the historical-critical method of reading and interpreting the Bible and legal sources; it took its more modern forms since the Renaissance. This chapter will explain the basic methodology of source analysis after a short historical introduction. While the focus here is on qualitative source analysis, the same principles also ought to inform and underpin quantitative research and also the reading of scholarly text (secondary literature), perhaps any text. The chapter will include sections on heuristics, i.e. the art of finding sources with a very short overview on source 'production', i.e. editions, the formal (diplomatic) assessment of sources, the two layers of content analysis: the 'identification' within its wider historical context and the in-depth analysis (language, facts), and finally the interpretation with reference to other (types) of sources and the secondary literature.

What is a primary source? Traditionally a primary source means a text. History's emphasis on textual sources is a problem in its own right, also called logocentrism (Klages), and will be discussed below. Such texts usually report on an event and historians habitually favour texts close to the event in question, i.e. produced within the very context or even as part of an event, say a peace treaty, or by a person having first-hand knowledge of this event, e.g. an ambassador who was present at the signing of the treaty. Secondary sources, by contrast, would be texts written ex post, with some distance to the event, e.g. by historians. Some historians, however, reject this distinction, which, it is true, is often difficult to make and insist that there is nothing but texts and that we have to read all of them critically. We, needless to say, agree in principle but the distinction nevertheless makes sense to us because primary sources, especially from more remote periods, firstly present their very own analytical problems and secondly are 'closer' to historical events and, as a rule, are the material on which secondary sources feed thus setting them logically and naturally apart from the latter.

The underlying hypothesis or conviction is that historical, qualitative source analysis is at the very core of the historian's Sisyphean profession. Appreciating the initial, original complexity of all things historical and that

these rich worlds in their complexity are lost to us, we investigate tiny, random and utterly deficient traces. These traces, primary sources, come to us in various ways and speak to us conveying their own logics and worldviews. We seek to reconstruct historical complexity gathering together signs and innuendos, tippets of information from these traces but push beyond the apparent, intended meaning and seek to find out what is beyond. Then we write our own texts and thus reproduce the very deficiencies of the critiqued sources.[1]

4.2 History of source analysis

Critical historical source analysis could, of course, ultimately be traced back to classical Greek historiography and medieval chroniclers.[2] But the publication of the humanist Lorenzo Valla's 1440 *Declamatio* in print by the reformer Ulrich von Hutten in 1517, was a turning point. It was a critical historical reading of a legal document, the so-called Donation of Constantine, which was of eminent importance to the papacy as it buttressed its claim to supreme sovereignty in the West. Valla revealed this text to be a forgery using philological reasoning, i.e. showing that the language of the text could not have been employed at the time of Constantine.[3] No less important was Valla's text critique of the New Testament paving the way towards modern philological biblical exegesis,[4] further developed, for instance, by another humanist: Erasmus of Rotterdam. It was the humanists' programmatic call for a return *ad fontes* (to the sources) that set the tone for modern source-based historiography. Evermore refined by specialised auxiliary disciplines providing an increasingly intricate toolset for source analysis (among them most important is chronology: 'armature première de toute histoire'[5]).[6] This method powered extensive source analysis producing the great historical classics from the Italian Renaissance historian Francesco Guicciardini to Edward Gibbon in the eighteenth and Leopold von Ranke and Josef von Hammer-Purgstall in the nineteenth centuries.[7] The underlining method was to draw a tableau of history grounded in a vast reading of primary sources, that is texts considered to be close to the events in question and thus a priori more reliable. These sources were mainly textual, but images were already important at that time; consider, for instance, Ranke's character portraits of 'great men'.[8] This school of thought, the nineteenth century 'historische Schule' as it was known in Germany where it originated, quickly spread all over the Western and later, mainly through French, Anglo-American mediation, the entire world. It was not only constitutional for the formation of history as an academic discipline but deeply shaped history's filial disciplines such as sociology, politics, economics etc. and had also a strong influence on the study of the law.

4.3 Heuristics: Finding and preparing sources – source editions

The method of the *Historische Schule* was to scientifically process and analyse primary sources. To this end, historians refined the above-mentioned tool-set and established a rigorous scholarly method of processing this information. As a first step, the historian needs to identify a historical problem worthy of investigation. Then, they research this problem and establish the state of research – what we, that is the scholarly community, know about the topic. With the increasing mass of published material, it often comes down to what the more delimited community or tribe specialising in this specific topic know about it. Now she might form a hypothesis, define a set of questions or an angle for her analysis. Then she can move to the next step: the finding of relevant primary sources.

These primary sources, that is, as we said, sources close to the events or phenomena in question, could include a variety of texts. Increasingly the historians' focus moved away from chronicles and other para-literary sources to charters and then other, less prestigious, archival sources until, by the second half of the twentieth century, the more prosaic and everyday writings of notaries and courts came under systematic and closer investigation.

This process was handled with a degree of division of labour, as a community project on various levels – including, importantly, the national level. What had been identified as valuable sources for the history in question, again, most prominently, national history, was sought to be published in huge historical source series, such as the monumental Italian series *Rerum Italicarum Scriptores* started by Ludovico A. Muratori in the early eighteenth century or the German *Monumenta Germaniae Historica* (MGH) published since 1826. Such series of edited sources exist for many (European) cities, regions and, especially, states. They are enormously useful and do a lot of the preliminary heuristic work for the historian, who then can conveniently scan these series for material relevant to her topic. They are also dangerous; motley materials can be thrown together and seemingly homogenised by the mere fact that they have been included into the series, thus they can foster self-fulfilling prophecies: based on the assumption that a city was part of the Hansa quite disparate material on those cities would

accordingly be collected in the *Hansische Urkundenbuch*, the collection of deeds of the Hanseatic League, while tending to exclude material that shows these cities as primarily regionally affiliated cities or emphasising their allegiance to an overlord. Thus, these collections seemingly confirm the a priori assumption of what a historic entity the city was, i.e. Hanseatic. Identities, however, were more complex: a city could see itself primarily as a city-state within an empire while balancing various allegiances to regional overlords and ecclesiastical leaders and many different affiliations and coalitions both regionally and meta-regionally. While these source collections thus remain hugely important and actually should be used more frequently – not least by economic historians – one should be mindful of their inherent bias and counterbalance this by considering also other sources, de-focus from the primary source collection and consider the wider or narrower context beyond the collection.[9]

4.4 Formal (diplomatic) assessment: What is this source?

According to the standard historical method refined by the Historische Schule, sources ought to be explored in several steps (and I took the liberty to include a few more here, see appendix 4.1): the first step is the formal identification of the source – where does it come from, how has it been transmitted and why. This step is geared towards establishing the history of the text under investigation. The aim is to identify and consider layers of distortion and interpretation. If a heavily formulaic, and (in the original) strongly abbreviated and truncated, notarial deed is consulted in a printed English translation, the layers of distortion are multiple. The original was written in Latin and on parchment, then the first edition was maybe done rather hastily in the nineteenth century and for a readership that, generally, knew Latin and was familiar with the particular formulae and expressions used in a notarial deed. The English version that you are working with, however, might be from an English source collection and based on the Latin edition but further simplified and shortened while some explanation might have been added. In reality, however, there is a further layer of distortion as you worked with a version that you found online, that contains several spelling and other mistakes due to a rash and unchecked application of digital Optical Character Recognition (OCR) without manual double-checking. Every single step in this process of translation adds distortions to the text, thus transforming the original into another text. Hence, the entire process of how a specific primary source came down to us in its present form has implications on how we appreciate and read this source. Similarly to what we discussed with regard to databases in chapter 3.3, this also relates to edited sources: each step in the processing of data tends to filter out certain elements – noise for one, precious background information for the other. The processing, of course, can also enrich the text; notes can provide background information on persons, places, events mentioned; explain difficult words; indicate variants if multiple copies exist etc. Digitisation of original texts eliminates the haptic dimension of the consultation process. This disadvantage is not to underestimate although archives these days tend to assume that digitisations were the perfect substitute for the original. By contrast, if digitisation is done well, it can enhance readability through

zooming, automatically amending damaged parts or even assist in reading and transcribing, possibly translating.

As part of this step, historians should thus consider the history of transmission of a given source, which includes questioning the choices made that led to publication or digitisation in a certain form (see above on editions). They should also consider what type of source it is and what the implications of this are: many prominent primary sources that historians are using were written for historians, for posteriority. These include chronicles or annals etc. These sources obviously have a certain vision and interpretation of what they are reporting on. If we are interested in them as documents to query how people in a certain period produced history, they do not present particular difficulties. But if we try to get to the history 'itself' reported in them, that is the underlying facts, we have to carefully assess what knowledge these writers could have had and how they processed and mediated it. A notarial deed tends to use stereotypical formulae into which one should probably not read too much. A private letter might have been written with the knowledge in mind that the recipient would not be the only one reading the letter but would be under pressure to read it out to a wider audience etc.

Considering the type of source should also include some rudimentary fact finding about the issuing institution, their remits, history and culture. Also the materiality of the original source (as much as possible) should be analysed. What writing support/material was used? Is it typical for the period and time? Paper with watermarks can give important hints on the age and provenance of the paper, rubbings of parchment can be analysed by specialised labs to identify the type of hide used. Seals provide information on the status and identity of the issuer of a document. Arrangements and bindings of manuscripts, the format of written material can also be crucial pieces of information. Manuscripts require some consideration of the handwriting; is it rushed or steady, what script is being used and how? What does the writing support and the handwriting tell us about the writing process?[10] This analytical element is particularly crucial if a source has not been published yet and/or the origin is unclear, for script allows us to date texts and also to locate them both geographically socially and professionally. Sometime we can thus even identify the scribe.[11] Non-textual elements can provide further important hints: images and illuminations, signs, underlines

and other markers provide hints on the status and provenance of a manuscript or document and how it was used.

In this context, we also have to consider who wrote the source and what steps led from historical event to the (written) source. This will be discussed below as part of the next step (W-questions) but it is also part of this step. Not least because this step is also about the thorny issue of the source's authenticity. Authenticity of course is a relative term and every source is valuable in its own way. It does make a difference, however, whether an edict is from Charlemagne or, say, from the sixteenth century pretending to be from Charlemagne. Both are precious and insightful but in distinct ways. One says something about actual policy making in the ninth century, one about the importance of enhancing a claim in the sixteenth century by dating it back to the time of Charlemagne. This step gives us also some first hints regarding the bias of the sources.[12] Although conceding that every source is biased and that truth (although theoretically somewhere out there) is never fully accessible to us, it is vital to consider a source's specific bias. Bias is not a moral verdict, it is inevitable and basically denotes what the source cannot tell us (accurately) and thus gives hints as to what it can tell us. The reasons for bias are manifold and include a wide array of memory biases.[13] This does not mean to dismiss a source but highlights the need to assess the 'production' and transmission process of a source in order to appreciate to which extent it can be expected to illuminate us regarding a certain question. It also indicates how other sources could contrast and complement this source in order to mitigate the bias. This, arguably, is a more productive way of dealing with sources than assessing and selecting/dismissing sources according to their perceived veracity.[14]

4.5 ‘Identification’ (What is going on in this source)

The next step is the ‘identification’, the backbone of traditional historical source criticism based on the popular ‘W-questions’: when, who, where, what. First, needless to say, you read your source but skimming it might be sufficient at this stage. If working from a photocopy or your own transcript of a source you may want to mark these elements in the source with a colour code (see appendix 4.1) – something that you would never ever do in a manuscript, archival material or an old or library book (never ever).

The ‘WHEN’ seems quite straightforward. Other historians may have dated many documents already but you might want to check that you agree with their findings. If not, you check whether your source carries a date. If it does, the interpretation can be difficult as different cultures at different times use different dating systems. Even if the date looks familiar, you have to be careful: the Gregorian calendar replaced the Julian calendar at different times in different places. The Venetian year (*anno ab incarnatione domini*) starts on 1 March unlike our ‘circumcision’ year (*anno ab circumcisione domini*) or the ‘nativity’ year starting on 25 December. If there is no date at all, you should try to establish an approximate date while running through the first step: the elements of the first step could help you date an undated source. Dating of sources in their materiality, i.e. as objects, is furthermore supported by the analysis of decorative elements and the actual make. Ceramics and brick can be dated by luminescence.[15] Objects containing C14 can be dated with the (relatively imprecise) radiocarbon method. Well-preserved wood (such as beams) might also be dated through dendrochronological methods.[16] Written material can be dated via the writing support (e.g. watermarks) or even by radiocarbon dating if made of plant materials but also by the handwriting or non-textual elements such as illuminations. In some cases, elements identified in the next step such as persons mentioned in the source etc. can also help in the dating of the source. Often, you cannot define a precise date: in this case you try to approximate, to find a *terminus post quem* (TPQ), i.e. the earliest possible date and a *terminus ante quem* (TAQ) that is the latest possible date (for time periods: *terminus a quo/ad quem*).

Yet considering the 'when' is more than establishing a date (see above). It is also about interpreting this date: what does this date mean? What is the *Zeitgeist*, i.e. fashions, crazes, prevalent feelings, fears and obsessions of the period? How could this influence the motivations and the presentation of the source? In conjunction with other 'W questions', e.g. 'where', possibly important events 'around' the source, for instance the reign of relevant rulers etc., will also be considered.

Moving to the 'WHO', we analyse the main or relevant persons mentioned in the source, try to get a sense of their biographical data, official function, role within the context of the source (notary, witness, claimant, accused, judge/mediator, buyer, seller etc.), status, provenance, ranges of action etc. This sub-step could be expanded almost ad infinitum; yet I recommend keeping it rather short and snappy at this point.

The 'who' is an odd one as it leads you back to the formal analysis regarding the production process of the source and the question of authenticity. A crucial step in traditional source analysis is to establish the quality of the producer of the source, the author. How close is the author to the events described? Are they involved or a direct eyewitness? Are they generally considered to be a truthful eyewitness? This step, however, is more complicated; it is not just about eyewitnessing. Indeed, the preliminaries of the source production process can already involve three to four most crucial translation processes that are more distortive than the ones outlined above, in the section on formal analysis: the transmission from fact to observation almost inevitably includes elements of interpretation by the viewer. Observations are not processed into memory once and then remain there unchanged. Rather, memories are harmonised within groups of eyewitnesses and also with written records, adapted to current events and are always assessed for relevance and thus threatened to be forgotten. The final fixing of memories in text can occur with considerable delay. People can repress traumatic memories for years until they write them down in their old age, perhaps decennia after the event.[17] Or, in the case of the history of the destruction of Troy in the late Bronze Age around 1200 BC and if we accept the controversial hypothesis that Homer's *Iliad* is mirroring these events, the 'text' would have been transmitted orally for hundreds of years before it was fixed in writing around the late 8th, early 7th century BC.[18]

Then you move on to the WHERE and establish the geographical context of the source. If it is a source about medieval trade, e.g. a court document or a letter bemoaning late delivery of a good or so, you might want to look at the route in question and try to understand how it could be travelled. Therefore, you might want to know about the trading geography at the time, where the route exactly was going through, how it could be travelled (foot, horse, carriage), seasonal patterns (mountain passes are closed over the winter) or if it is about seaborne trade you would be interested in legs, ports, seasonal wind regimes, currents etc. If the source is about agricultural land and its yields, you might need very different data, e.g. on soil quality, average rain falls, distance to markets etc. If it is about ecclesiastical prerogatives or feudal conflicts, you might want to look at jurisdictions, governance, and the respective boundaries and affiliations.

The WHAT is about gaining a first understanding of the narrative, transaction, sequence of events described or implied by the source. Before skimming the source think about triggers or markers you might want to look for. These are terms within the text, which promise to sign-post crucial information. The markers depend on your questions: if I examine the late fourteenth century religious reform movement of the *devotio moderna*, I am interested in keywords like spirituality, succession etc. Transferred to the language of the source, possible markers are *pietas, devotio, imitatio Christi, vita contemplativa*. That list (the glossary, best kept as a separate document) is developed/adapted with each additional source. The next sub-step, especially important for texts in a language you are not fully conversant in, is to identify key terms, i.e. words on which your understanding of the text seems to hinge, i.e. words that seem indispensable for the appropriate understanding of your source. Even if the source is in your mother tongue, it can be worthwhile to engage in this exercise, as words change or, rather, shift meaning over time such as the word ‘gay’ in Wordsworth’s ‘A poet could not but be gay’.[19]

Now you should be ready to sketch out the main content, the gist of the source either spatially or schematically – the ‘WHAT’ – and sum-up its content in a short one-sentence summary (in German called ‘Regest’). The schematic representation of the WHAT in a sketch can help to break the ‘logocentric’[20] shackles of textual source analysis and try to take a step back from the text and translate the source’s message into another visual logic

thus showing potential breaks, incongruences to be explored further in the next step. Depending on the source and your project, these first two steps might suffice to retrieve the information you need (e.g. of a person being present at a certain place and time). If you want to find out more subtle elements, such as how scholars tried to use a certain language to reinforce their authority, or how a defendant in court refers to ideals of economic liberalism etc. you need to analyse the language of the source in more detail: the in-depth analysis.

4.6 In-depth analysis (What is really, furthermore going on)

The next step of qualitative source analysis is the in-depth analysis involving two further 'W-questions': which way, why. While the previous paragraph presented a possible methodology for finding out what a source *prima facie* is about, this section will analyse more hidden layers of the source. This step, in other words, is to get behind the more apparent meaning of the source. It may even deconstruct this meaning or message and look beyond what the source might want you to understand. For this step you read the source again, more slowly, with attention to detail. First you further scrutinise the language of the source, focusing on the discursive system to which the source belongs; what kind of language is employed and why (WHICH WAY, WHY)? Accepting that all history is representation, historic reality is convened to us only indirectly through the medium of semiotic systems, signs and texts. Techniques to deconstruct the structures and hierarchies constituting meaning in a text are often grouped under the loose heading of (post-modern) critical theory. Usually this means an assortment of methods roughly relating to discourse analysis, post-structuralism and deconstruction. Critical theory and especially the (for us) most relevant practices of deconstruction and discourse analysis seek to dismantle the surface, the foregrounded meaning of a text and to look beyond, i.e. to find out how a text performs, constructs or constitutes 'reality'.[21] Such analysis normally includes the following elements:

- **Morphological analysis**: This analysis ties in with the analysis of key terms discussed above as they may already give some good indications to which professional, intellectual milieu a source and their producers belonged or sought to belong. This analysis can now be pushed further: what is the exact meaning of the key terms, pivotal words identified above? All these words, have a history of their own, an etymology. Meanings are changing over place and time; they expand and contract. Good dictionaries can help you to assess this.[22] What is the rhetorical and argumentative structure of the source, how is the text constructed? What does the text try to say, argue and how? What arguments are used to make the point and why? What argumentative strategies can we

identify? In this context it can be helpful to identify linguistic opposites constitutive of the source's message. Examples could be good-bad in a moralist discourse, efficient-inefficient in a utilitarian one, winning-losing in a military discourse etc. Derrida's concept of *différance* (sic) is seminal, i.e. the characteristic of any text to defer ultimate meaning to ever new emanations of texts and to structure themselves by hierarchies and oppositions.[23] Almost as important is what the text *does not* say; why is the text not mentioning something that you would think pertained to the argument, was important? You would also pay attention to implications, innuendoes, incongruences, symbolic language and linguistic imagery, style. The most important element here, I would say, is to respect the fundamental otherness of the text and the people that produced it, the distance between them and you, while not shying away from trying to understand, to get to the bottom of things on the basis of shared humanity.

- **Framing**: Mindful of the institutional elements found out during the 'identification' of the source, the resulting linguistic choices in terms of professional language, lingo or jargon are further analysed, while also considering the framing by an actual source-related event (e.g. an administrative act, an election, a scandal etc.) or mega-event (such as the German defeat in WW1). To which overarching 'communicative system' does this language pertain, e.g. post-WW1 revisionism, restoration of Germany's 'glory'?[24] Thereby one should also consider the use of formalities and formal language including styles of address and other audience-related elements but also the system-specific ways of complexity reduction (thereby drawing especially on the last elements of the morphological analysis outlined above).
- **Inter- and hypo-textual elements**: Then you analyse more general and more specific references to other texts, written or oral, but also to general beliefs, stereotypes, and ideologies. What image of society, state, nation etc. is evoked? What hypo-texts or narratives, images are referred to and how (both implicitly and explicitly)? This could include quotes from canonical texts, such as law codes, the medieval school authors, the Koran/Bible/Talmud etc., the Chinese seven military classics etc. Other than quotes and more difficult to track although not less important are indirect references, plagiarism, innuendos and allusions as well as parodies. Also the borrowing of terms from other

natural or professional languages or lingos, calques, or mixing of registers, metaphors or languages (pastiche) can give important insights.

We can comprehend the discourse as a three-dimensional system composed of one or several discursive strands navigating discursive positions on different layers including the intertemporal referencing of other texts.

It can be most fascinating to thus dissect a text and unveil all sorts of subtleties; it can make the historian feel quite comfortably fortified in her cleverness identifying all that could be ‘wrong’ or ‘constructed’ in a text. The arrogance that sometimes results from this, the hubris that makes some colleagues dismissive of history ‘as it was’, snobbishly belittling any attempt to figure out historical ‘truth’ by historians now or in the past, is perhaps the most severe problem of this approach. It is the tragic misunderstanding that crude instruments cannot produce beautiful art; that we could not faintly perceive something more perfect behind and through the imperfections of everything that is made, that we make. Before we discuss this in more detail below, there are other caveats regarding discourse analysis to be kept in mind:

Firstly, with regard to the above-mentioned arrogance, the presumption that discourse analysis is a fundamentally new approach thus dismissing older research is unconvincing; the underlying insight into the constructed and performative character of all textual sources is shared with traditional historical source analysis. Therefore, the pretence that pre-discourse analysis historiography dismissed as ‘structural’ and ‘positivist’ tends to lack source analytical rigour is difficult to uphold. Hence, all voices on a given topic remain potentially relevant regardless of their age unless proven otherwise.

Secondly, the narrow focus on the text, naturally, comes at a price in terms of required resources. For this kind of microanalysis is time-consuming and as time is the primary and always scarce resource of the historian, it is expensive. This constriction is further aggravated by the law of diminishing marginal returns: the more we get into the details of a source, the less we tend to gain per unit of time, i.e. while important new insights may await us, the likelihood of discourse analysis fundamentally reshaping the insights gained in step two might be, overall, relatively small. As with all resource-

intensive tools, deconstruction/discourse analysis thus should be used judiciously and sparingly.

Thirdly, there is a consequent loss of vision. The more we focus-in on one text, the less time we have to read other texts. In other words, the more we focus on one tree, the less we see the forest. Thus we may take some assumptions about the forest from someone else, for instance, perhaps, even, more or less directly, from the oh-so-dismissed 'positivist' historians of ancient lore. Then confronting these assumptions with our tiny findings relating to one tree (or, rather, a few inches of its bark), we might feel a powerful *eureka* in discovering that our source could challenge received wisdom about the forest. Yet our piece of bark might not be that representative of the forest or even the tree in question. Thus, our new hypothesis might rest on shaky ground and thus be lacking in robustness or even relevance.

Therefore, the discursive and deconstructive element of source analysis is one to be used modestly and sparingly. If the 'Identification' and first analysis of the text made you pause and instilled some doubt in you, it is probably a good thing to embark on this journey as a next step. More importantly, you should always apply this step to a random sample of the type of source that you intend to chiefly rely on. The step can (and ought to!) be applied also to economic history sources, such as statistical sources – maybe statistical sources in particular. For statistical sources as much as any textual source are part of a discursive system, they construct data and harness it to make a certain point. The institutional context obviously matters a great deal: the statistical office operates within a context of bureaucratic expansion of a (pseudo-)scientific state-dominated decision-making process. Statisticians are trained in a certain way; they create implicit arguments in dialogue with politicians by, say, defining racial categories to be included into a census. More generally, the data design, generation and capture, e.g. the design of a questionnaire and the process of filling it in as well as the processing and accessing of the data shape the argument of statistical material. A not-so-subtle rhetoric of dryness, boredom but also of accuracy, rigour and rationality shapes the presentation of statistical material. It thus tries to convince the reader of its factual nature although, at the end of the day, it remains in many ways a narrative document as any other textual

source. It remains very much part of (and is shaping) a public discourse, say on race in the context of late nineteenth century US census data.

The discursive or linguistically focused part of the in-depth analysis should always be combined by a 'factual' in-depth analysis. You should not be deterred by some colleagues' distrust of facts and their credo or siren song that everything (including geography and nature) is constructed. For even if we may tend to agree in principle, in terms of thorough source analysis, I think, you are still better off following Geoffrey Elton's *Practice of History*: you familiarise yourself in considerable detail with the nuts and bolts of the historical-factual context of the source in question.[25] Based on the elements worked out in step two, you zoom-in on the institutions, persons, events, objects, techniques, places etc. involved in the source, paying attention to incongruences, contradictions: Could this person really have been at the place they claimed to be? Is it realistically possible that this farmer was robbed of 500 £ Sterling in 'good coins of xy' in view of numismatic evidence and mint records? You then contrast your in-depth findings with the hypothesis you have formulated in the course of the 'identification' step. This helps you not only to better understand the source in question but also to become mindful of the pitfalls of a genre or group of sources. It helps you to better understand how you had been tricked into a false or distorted belief and how to avoid this in the future and with other sources.

4.7 Interpretation (What does this mean for me and my project)

Finally, we move on to the fourth and last step: the interpretation of the source. What is this about and what does it mean for my project and me? I suggest running through a few auxiliary steps before answering these questions. I split the third step into three sub-steps: appraisal of the information gained, interpretation proper and testing of the interpretation.

For the appraisal, consider first whether statements are credible or not. The question how 'primary' a source is, i.e. how close to the event, is certainly not irrelevant but you will discover soon that a lot of primary sources according to the typology suggested in the appendix are not strictly speaking primary but produced at some distance to the event. Then reconsider the above-mentioned omissions more generally: what does the source not talk about and how do I interpret this (*conclusio/argumentum e silentio*)? Was the author of the source simply ignorant of certain events, persons, rules? Or did they consciously omit referencing it? Or was it simply not considered to be relevant or so obvious that no reference was needed? Next, we (reconsider) the intention of the source summing up our findings of step two and three. Then we identify other sources that could help us to confront the source's narrative with another view (see bias above), or to further expand on our source depending on what our interest is. We think about how to fill the silence of the source or, rather, to challenge our hypotheses of how to do this. This would also include considering the indirect evidence of lost sources (*deperdita*), which can significantly change our interpretation of a source. The first paragraph of a Venetian merchant letter might contain information on other letters that circulated within this period between sender and recipient. These other letters might all be lost and their content only vaguely inferable from the present letter but they still inform us about the volume of the entire correspondence, ships and their movements, seasonal variety in mercantile and shipping activity, speed of transmission and thus the frequency and intensity of communications.

Now we interpret the source in light of our research questions, hypotheses and models. Are the findings challenging our assumptions or confirming them? Often, historians subsequently concentrate on the latter sources and use them to build their argument when writing up their findings. Yet this

methodology is problematic because of the confirmation bias, the tendency to see what confirms your pre-existing assumptions: ‘He who seeks shall find’ (Matth. 7, 8). Indeed, it is wise to rather focus on what is challenging your assumptions and hypotheses in order to build a stronger argument. Similarly problematic is to apply a default interpretation to the silence of the source: if I cannot find anything there isn’t anything. Criminologists would not get away with that and yet historians often do and construct history assembling sparse evidence as if there were not huge lacunae. Therefore, the historian should focus almost as much on the silence as on the voice in the source and not shun away from modestly and cautiously proposing hypotheses about how the usually very complex, ‘full’ picture could have been. It is a good idea to consider variants, i.e. to consider more than one hypothesis in order to avoid the pitfall of tacitly turning them into facts. For we always, always ought to remember that the innermost and ultimate historical truth will remain hidden from us: ‘for now we see through a glass darkly’ (1. Kor. 13, 12).

In this spirit you should move on to a robustness test of your findings. Does your interpretation still hold up if you bring comparative materials into the picture? Say you find that your source, a notarial deed, confirms the strength of European institutions and property rights thus corroborating the idea of European exceptionalism. Does this still hold up if you compare with other histories, i.e. if you look at public witnessing and documenting of deals in the Islamic world in the Middle Ages (i.e. in an earlier period: that would be a diachronic comparison) or in Tokugawa Japan (at the same time, i.e. synchronic comparison)? Next, I would consider how other specialists might interpret this material with their models, assumptions etc. If you are an economic historian and really interested in finding data suitable for regression analysis, you should consider how a cultural historian, a linguist, a sociologist or anthropologist might interpret this material; how would they go about it and comprehend it? Would such analysis possibly challenge and modify your interpretation? What are, overall, the consequences for your interpretation of this source but also, more generally, the set-up, underlying assumptions, and applied methodologies, in short: the academic ‘tribal’ culture, framing and powering your project? What has the analysis of this source and the robustness test in general taught you about your own biases, prejudices, emotional or ideological triggers and involvements? Overall,

how do you, consequently, adapt the framework of your project or, possibly, even your attitude that ought to be *sine ira et studio* (without ire and passion)? Finally, you could sum up more practically what the contribution of this analysis to your project is, what does this little puzzle piece, *tessera* (tiles used to compose a mosaic), contribute to the bigger picture you are trying to reconstruct? And what are, therefore, the next steps to take?

4.8 General remarks

This is, of course, a highly complicated procedure and to run through it for every single source you use would be prohibitively time consuming. The procedure outlined above and summed up in the appendix is, therefore, intended to be a didactic device, an aide-mémoire, rather than a form to be filled-in for the sake of box-filling. The idea is not to follow it slavishly but rather to extend your toolbox of source criticism, to challenge your preferred methods, reading patterns etc., i.e. to critically engage with your own ways of source criticism. To follow schematically the outlined steps as a method cut in stone, would reproduce some of the same shortcomings mentioned above. For, inevitably, even this perhaps rather elaborate procedure is a crude and radical simplification of various modes of source criticism, casually reducing and cannibalising complex tribal world views (e.g. deconstruction) into some crude little tool, selecting some while neglecting others.

In practice, in any case, time is at a premium and you can only do so much. Usually you are dealing with series, certain types of sources and quite a few of the steps would be the same for every single source within the series. Also, you will develop your own intuitive understanding of your sources and work quickly through material. You will have to do this, for the sources, usually, are numerous. Yet, working efficiently and speedily guided by intuition (which is a good thing!) can nevertheless be prone to certain shortcomings, e.g. the availability and confirmation bias. Therefore, my hope is that this aide-mémoire (or any other and certainly more polished device you might chose) shall not become a recipe but a reminder that there is a whole world of complexity out there, of other possible meanings, interpretations, methods. It may be a reminder that our findings are always preliminary and poor and that modesty, perseverance and the constant questioning of our findings are cardinal virtues of the working historian. She may always struggle with the impossible tasks of reconstructing the complexity of past worlds through the analysis and deconstruction of primary sources in order to then reduce this complexity yet again while writing up the findings and turning them thus into secondary sources. It seems a Sisyphean task: ever searching for meaning in distorted text and

reproducing distortion in our own texts submitted to others to be deconstructed; ever deferring (Derrida) meaning in texts that remain slippery and changing. Yet it is not; all the value and difference is in trying, the ascent towards the ultimately never attainable objective of seeking historical truth. For we cannot simply dismiss and abandon this quest without betraying our profession. Source criticism is the means of doing it and, in many ways, the means that is the end. Through it we can, perhaps, garner glimpses of some truth and meaning and that shall suffice us. We can produce writing that, although never conclusive, hardly ever definitely settling a question, or fully comprehending an issue, can be useful. Useful and truthful (although not true) and, perhaps, even beautiful.

Notes

1 It would go beyond the scope of this chapter to discuss various attempts at producing analytical texts that are trying to overcome the shortcomings of traditional historiography. Suffice to say that also these new genres such as, for instance, microhistory come at a price on which some more is said in the section 'In-depth analysis'. The idea of initial complexity seems an obvious one but is prominent in Derrida's deconstruction, see below.

2 Among the ancient Greek history writers, modern historians often favoured Thucydides and his emphasis on factual accuracy over Herodotus.

3 Lorenzo Valla and G. W. Bowersock, *On the Donation of Constantine*, The I Tatti Renaissance library, 24 (Cambridge, Mass: Harvard University Press, 2007).

4 Lorenzo Valla, *Collatio Novi Testamenti*, ed. by A. Perosa (Firenze: Sansoni, 1970).

5 Henri-Irénée Marrou, 'Qu'est-ce que l'histoire', in Charles Samaran (ed.), *L'histoire et ses méthodes*, Bibliothèque de la Pléiade (Paris: Librairie Gallimard, 1961), pp. 1–33 here p. 25.

6 An outstanding chronological repertory is: Louis Comte de Mas Latrie, *Trésor de chronologie, d'histoire et de géographie pour l'étude et l'emploi des documents du moyen âge* (Paris: Librairie Victor Palmé, 1889).

7 Francesco Guicciardini, *History of Italy*, ed. by Austin Parke Goddard (London: John Towers, 1753); Edward Gibbon, *The History of the Decline and Fall of the Roman Empire* (London: Bradley, 1900); Leopold von Ranke, *Geschichten der romanischen und germanischen Völker von 1494 bis 1535* (Leipzig: G. Reimer, 1824) engl: *History of the Latin and Teutonic Nations (1494 to 1514)*, rev. transl. by G. R. Dennis, intro by Edward Armstrong (London: G. Bell & Sons, 1909); Josef v. Hammer-Purgstall, *Geschichte des osmanischen Reiches: Grossentheils aus bisher unbenützten Handschriften und Archiven* vols. 1–10 + Kartenband (Pesth: C. A. Hartleben's Verlag, 1827–1835) on which Creasy's *History of the Ottoman Turks* is mainly based.

8 Leopold von Ranke, *Studien und Portraits zur italienischen Geschichte*, ed. Willy Andreas (Wiesbaden: E. Vollmer, 1957).

9 *Hansisches Urkundenbuch*, 11 vols. (Halle/Saale, Leipzig and Weimar, 1876–1939).

10 Cf. Juliet Fleming, *Cultural Graphology* (Chicago: Chicago University Press, 2016).

11 Linne R. Mooney and Estelle Stubbs, *Scribes and the City: London Guildhall Clerks and the Dissemination of Middle English Literature, 1375–1425* (Woodbridge: York Medieval Press,

2013).

12 Bias is not a very popular term among some historians, who would (rightly) argue that everything is biased and that the historians' work is about figuring out why someone is presenting a narrative in a specific way.

13 Johannes Fried, *Der Schleier der Erinnerung: Grundzüge einer historischen Memorik* (München: C.H. Beck, 2012), pp. 80–146, in English, shorter: id., *The Veil of Memory. Anthropological Problems When Considering the Past*, Annual Lecture 1997 (London: German Historical Institute, 1998), pp. 5–34.

14 See also Karl G. Heider, 'The Rashomon Effect: When Ethnographers Disagree', *American Anthropologist* vol. 90, no. 1 (1988): 73–81, https://doi.org/10.1525/aa.1988.90.1.02a00050 [accessed 17.12.2019], see for a similar historiographical approach: Alessandro Portelli, *The Order Has Been Carried Out: History, Memory, and Meaning of a Nazi Massacre in Rome* (New York: Palgrave Macmillan, 2003), see also Christian Goeschel, *Mussolini and Hitler: The Forging of the Fascist Alliance* (New Haven, Conn.: Yale University Press, 2018), p. 14. Related historiographical approaches are those of the *histoire croisée*, Michael Werner and Bénédicte Zimmermann, eds., *De la comparaison à l'histoire croisée* (Paris: Seuil, 2004). This is not to say that 'the door' to this was not 'already open' in traditional source analysis (this also applies to the note above), cf. Achatz Freih. von Mueller, 'Wirklichkeit oder Wahrnehmung? Zu Johannes Frieds Studie "Der Schleier der Erinnerung"', *Geschichte und Gesellschaft* 32 (2006): 214–219.

15 Ian Bailiff, 'Luminescence, Pottery and Bricks', in William Jack Rink and J. W. Thompson (eds.), *Encyclopedia of Scientific Dating Methods*, Encyclopedia of Earth Sciences Series (Dordrecht: Springer Reference, 2015).

16 William Jack Rink and Jeroen W. Thompson (eds.), *Encyclopedia of Scientific Dating Methods* (Dordrecht: Springer Reference, 2015).

17 On the distortions inherent in the transmission of speech/thought to writing see Fleming, *Cultural Graphology* above or Derrida, *Écriture* below. On the problem of memory, see note 13 above.

18 The archaeologist Manfred Korfmann and the Homer specialist Joachim Latacz supported by other archaeologists and hittitologists argue that the *Illiade* could reflect events that happened on and around the archaeological site commonly identified as Troy in northwest Anatolia, see Latacz's *Troia und Homer: der Weg zur Lösung eines alten Rätsels* (München: Koehler & Amelang, 2001, new augmented edition 2010). This interpretation has been challenged by a specialist of ancient history, Frank Kolb, see his rather polemic *Tatort »Troia«. Geschichte – Mythen – Politik* (Paderborn: Ferdinand Schöningh, 2010). The debate, regrettably polemic and overshadowed by the early passing of Korfmann and his close collaborator Jablonka, is of the highest interest to the economic historian as it exemplarily shows the core difficulty of qualitative analysis: *conclusio e silentio* and extrapolation, i.e. the attempt to reconstruct the original complexity of a historical problem, see the late Peter Jablonka's balanced and nuanced reply to Kolb's book, 'Rezension: Frank Kolb. 2010. Tatort "Troia". Geschichte, Mythen, Politik. Paderborn: Ferdinand Schöningh', *Jahresschrift für mitteldeutsche Vorgeschichte* 92 (2011): 527–555.

19 The 1815 (revised) poem 'I wondered lonely as a cloud' or 'Daffodils'.

20 'Deconstruction', *Encyclopædia Britannica*, September 27, 2018. https://www.britannica.com/topic/deconstruction [accessed 29.08.2019]. The term, now often associated with Derrida, see below, was apparently first coined by German philosopher Ludwig Klages.

21 There is a rich literature on this, for some classic inspirations, see Michel Foucault, *L'archéologie du savoir Bibliothèque des sciences humaines* (Paris: Gallimard, 2014) and Jacques Derrida,

L'écriture et la différence (Paris: Éditions du Seuil, 1967), there are English translations of these works, which, however, are difficult to translate.

22 E.g. Salvatore Battaglia, *Grande dizionario della lingua italiana* (Torino: UTET, 1961).

23 Jacques Derrida, 'La "différance"', 62, no. 3 (1968): 73. https://web.stanford.edu/class/history34q/readings/Derrida/Differance.html [accessed 21.08.2019]; id., Jacques Derrida, *L'écriture et la différence* (Paris: Éditions du Seuil, 1967).

24 Cf. http://en.wikipedia.org/wiki/Niklas_Luhmann, the lengthy originals: *Die Gesellschaft der Gesellschaft* (Frankfurt a.Main: Suhrkamp, 1997).

25 Geoffrey Rudolph Elton, *The Practice of History* (London: Fontana Press, 1987).

4.9 Appendix

Form Source Analysis[1]	Name:	Project:	Date:
Superordinate question/theme of essay etc. and hypotheses, working assumptions, possible sources:[2]			

Formal assessment

Publication/edition/reference:	Type:[3]	Find spot, orig. depository:	Bias, complementary/corroborating sources[4]
History of transmission/literature[5]:	Material,[6] state,[7] format, make etc.[8]	Authenticity, date, provenance, context:	

Identification browsing/scanning/underlining with indicated colours (never in an original source or library book!)[9]

When?[10] 'Zeitgeist':[11] ---------->>[12]	Consequences (hypothesis, open issues, bias etc.)[13]

Who? (persons, red)		
	Actor[14]:	Function, location:
	Reactor:[15]	
	Official[16]:	
	Further participants:	

Where? other places, centres (blue)[17]	How, why, what for? What is it about? (chain of activities, orange), outline:[18]	Consequence – first hypothesis:[19]
Marker (green)[20]		
Key terms, quintessential elements (yellow)[21]		

Summary, Regest[22]

In-depth analysis				
Language, discourse analysis[23]	Morphology I: In-depth analysis of key terms, other important terms in dictionaries, specialized reference books etc.[24]		Insight	Consequence, conclusion
	Morphology II: Rhetoric/structure/arguments/inference, omissions, polemics, personal note,			
	Framing: special language/jargon (of a ‚social' resp. ‚communicative' system), forms of address[25]			
	Intertextual elements: Slogans,stereotypes, ideologies, beliefs, narratives,quotes, references, allusions, parody, calque, pastiche, plagiarism[26]			
Facts	In-depth analysis of identification elements: history of persons (prosopography[27]), events, places (historical geography), institutional history		Difference[28]	Revision of hypothesis
Interpretation				
Appraisal of info	Statement credible?[29]	Primary or Secondary source		
	Silence	intentional accidental		
	Intention			
	Additional sources[30], incl. reconstructed sources(*deperdita*[31])			
Interpretation[32]				
Testing of interpretation	Comparison: Diachronic, synchronic			
	Complementary analytical foci inspired by other disciplines	Anthropology, Ethnology		
		Sociology, Political science		
		Economics		
		Cultural theory		
		Linguistics, philology		
	Consequences concerning model/method[33]		Our own bias/prejudice	Adaptions of framework
'Tessera'/puzzle piece in overall picture: original statements/framework confronted with new findings				Next steps

Objects	Ceramics		
	Coins		
	Tools, objects of art		
	Architecture (buildings, fortresses, walls etc.)		
	Food(-waste), charcoal		
	Other (NB: also texts, images are objects)		
Texts	Normative & legal sources Limited intention of tradition	Norm (incl. Church law)	
		Court records	
		(Notarial) deeds	Testament
			Contract
			Procura
			Receipt
			Debt
			Testimony
			Deed of foundation
			(...)
		Cadastre	
		Administrative files, financial files	

Images	Iconography
	Iconology
Tradition, intention of tr.	Chronicle/Annals/Diaries
	Charter
	Biography
	Literature (belles-lettres, fiction)
	Liturgical, sacred texts
	Itineraries, Maps, Handbooks
Relic, limited intention of tr.	Letter, copy of letter
	Account
	Receipt
	Instruction
	News letter, sermon
	Notice, slip box

1. See the following notes for specific guidance on how to use this form. Generally, on the left you report factual info, in the middle your analysis and on the right-hand side the resulting consequences.
2. What is the problem you want to engage with, what have others said about it, what is the debate, the disagreement about it? What are your questions, hypotheses; how do you intent to answer/test them, i.e. using what sources and methods, explanatory models?
3. Some sources are not easy to classify or might be a hybrid of different types listed below.
4. 'Bias' of the source; corrective/error eliminating complementary sources based on typology above.
5. Including publication history, i.e. who edited in which context, why and how. You should also try to get a sense of who used the source and why.
6. Material – texts: paper, parchment, papyrus, clay; images: canvas, wood, paper, photography; objects: stone, wood, metal (iron, steel, bronze, copper, silver, gold etc.).
7. Tattered, water damage (damp stains), mould etc.
8. If you use a manuscript or early printed book and you are expected to provide a full codicological (codicology: study of the book as a

physical object) analysis (the following list draws on a manual Alexandra Gillespie used for teaching at the Univ. of Manchester, cf. Alexandra Gillespie and Daniel Wakelin, eds. *The Production of Books in England, 1350–1500*. Cambridge: Cambridge University Press, 2011):

1. Heading with author, title, publication, collocation etc. of ms.
2. Description of title page with full title, subtitle etc.
3. Format and gathering (quires) of leaves and of the used paper incl. gathering formula and pagination.
4. Content incl. blanks, title, half-title, advertisements, imprints/colophones, dedication etc, preface, text, index/rubrics etc.
5. Technical notes (plates, illustrations, paper type incl. watermark (cf. Briquet, Charles-Moise. *Les filigranes. Dictionnaire historique des marques du papier*. Genève: A. Jullien, 1907), print types, ink, hand etc.)
6. Specific notes (specific to the ms./print book copy you are consulting), cf. P. Gaskell, *A New Introduction to Bibliography*, pp. 313–36.

Some sources or some features of your sources might require the support of specialized auxiliary disciplines such as heraldry/vexillology, numismatics, phaleristics, sigillography, codicology (see above), diplomatics, palaeography.

9. W-questions: where, when, who (with whom, for whom etc.), what, which way, (why)
10. Report date established by critical research or your own formal assessment, possibly only approximations - dating of sources/evidence: often you cannot define a precise date: in this case you try to approximate: terminus post quem (TPQ): earliest possible date, terminus ante quem: latest date possible (TAQ). For time periods: terminus a quo/ad quem. Dating of objects: Decorations and actual make might provide clues. Ceramic can also be dated by scientific methods. Objects containing C14 can be dated with the (however relatively imprecise) Radio-carbon method. Well-preserved wood (such as beams) might also be dated through dendrochronological methods. Written material can be dated via the writing support (e.g. watermarks)

or even by radiocarbon dating if made of vegetal material but also by the handwriting or paratextual elements such as illuminations.

11. Epoch/'time' as in Middle Ages, early modern, British Civil Wars, The Dutch Golden Euw, Renaissance etc.
12. On the timeline (history of events, light blue), indicate relevant historical events 'around', in the orbit, context of the source.
13. The elements of this column are best to be inserted into a separate list of open issues and hypothesis, which is extended and developed in the course of your further reading.
14. Actor: author (chronicle, letter etc.), issuer of a *procura, commissaria* etc. (notarical record), suitor (court record), creditor, seller.
15. Reactor: addressee (of a letter, *procura, commissaria*; of a credit = debtor), defendant, buyer.
16. Official: notary, writer, scribe, judge, mediator.
17. Analysis of the source 'on the map'; elements:

Ground incl. geology, soil quality, morphology; natural resources, vegetation, agriculture Climate (season, temperature, rainfall, winds, currents) Water (availability, waterways) Cities, centres, settlements (size, distances between them) Connections, lines of sight (see above – how easy was it to move from one location to the other) Political boundaries, affiliations (mindful of layers, fractured statehood, e.g. ecclesiastical vs. secular)

Be mindful that historical atlases can, have to, simplify the typically layered and fractured political structures; informal economic but also political power of, say, a city can transcend the map's political boundaries, while boundaries, say of the Mamluk Empire, drawn mainly in deserts, can mean precious little in terms of Mamluk influence in that precise border region.

18. Mindmap, flow diagram, geogr./spatial sketch: this is to encourage you to break the 'logocentric' (Klages) chains of textual source analysis and try to take a step back from the text and translate the source's message

into another representational logic thus showing potential breaks, incongruences to be explored in the next step.

19. Questions addressed to the text; hypothesis about what the text could tell us: "if I take it correctly that…, the in-depth analysis should show…"
20. Terms within the text, which promise to be crucial for your project. The markers derive from your questions: If I examine the *devotio moderna*, I am interested in keywords like spirituality, succession etc. Transferred to the language of the source, possible markers are *pietas, devotio, imitatio Christi, vita spiritualis*. That list (the glossary, best kept as a separate document) is developed/adapted with each additional source.
21. Terms, that are central for understanding and meaning of the text; if I don't understand those, I won't understand the entire source (max. 1-2 per page).
22. Short summary of the content in one sentence (Regest).
23. Cf. Michel Foucault, *L'archéologie du savoir* (Paris: Gallimard, 1969). Cf. also Derrida's concept of *différance* (sic: all communication (speech/writing) being différance, that is deferred, preliminary (rather than 'true') meaning needing supplements and constituted by difference, interplay of binaries), Jacques Derrida, "La "différance"", 62, no. 3 (1968): 73, English transl.: https://web.stanford.edu/class/history34q/readings/Derrida/Differance.html accessed 21.08.2019: Try to identify how the source is constructing meaning, designing a message, pay in particular attention to the type of linguistic opposites constitutive of the source's message (example: good-bad hints at a moralist discourse, efficient-inefficient at an utilitarian one, winning-losing at a military discourse etc.).
24. All key-terms and other keywords should be scrutinized; (etymological) dictionaries, encyclopaedias and thesauruses can help. There are also specialized encyclopaedias for technical terms, such as from legal, nautical, mercantile language.
25. Cf. Niklas Luhmann, *Die Gesellschaft der Gesellschaft* (Frankfurt a.M: Suhrkamp, 1997).
26. E.g. quotations from the Bible or Koran; quotations of ancient authors, of vitae of saints…
27. History of persons, collective biographies etc.
28. Difference between what was established in step 'Identification'.

29. Primary: reporter has direct insight into the described events; secondary: only indirect insight.
30. That could be useful to elucidate the circumstances, revise the hypothesis, cf. notes 2, 4.
31. Deperditum=an actually lost source, the existence of which can be derived by diligent analysis of existing sources and reconstructed to a certain degree.
32. In light of my hypothesis, model, expectations – focus not on corroborating your hypothesis but challenging it.
33. Quantitative vs. qualitative analysis; do the markers pass the test? Do model, method need to be adapted?

4.10 Further reading

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Part 2
Case Studies

5 Origins of capitalism I

Transcultural trade or pepper travelling from India to England

Georg Christ

5.1 Introduction

This chapter will explore the medieval world trade system focusing on pepper and the Eastern Mediterranean and showing how some of the primary sources and methods outlined in the previous sections can be applied to a specific research problem. It will argue that different types of sources require different methods (quantitative as well as qualitative) and should be more readily combined in order to gain a fuller picture of this trade. I suggest this means that scholars have to step out of their narrower professional speciality, e.g. in certain types of text, and consider a wider array of sources and methods in an interdisciplinary manner.

Historians thus should, so-to-say, wear two hats. The first is the one of the craftsperson specialised in the reading and interpreting of highly specific source material. The second hat is that of the broadly oriented and skilled historian and scholar, who interprets findings in a wider context that includes also materials produced or methods applied by other specialists. Studies based on one particular source type and deploying only one method risk drawing a skewed image. For every source and method have their specific value, their specific sets of strengths and weaknesses. In other words – each other source and method we might apply could shed new light on various parts of the wider problem (see also chapter 4 above). Ceramics in shipwrecks, notarial deeds, letters and account copies from private archives, chronicles (in Latin, Italian, Arabic etc.), tax administration manuals and many other sources contribute to a more holistic picture of international trade before the vertical integration of commercial production in the early modern period, when taken together and analysed through different methodological lenses. This means that in my case, I will bring my core-craftsmanship, which is analysing Venetian business writing of the fourteenth and fifteenth century, to the table but then I will branch out from it and include other sources and methods that can shed more light on the problems of medieval trade in the Eastern Mediterranean.

I will first provide a brief summary of the pepper trade following in the wake of pepper travelling from the Indian Malabar coast to England, on the way discussing the various sources informing us about it. I will focus on the

late fourteenth and early fifteenth century when Veneto-Mamluk dominance of the pepper trade in the Euromediterranean was at its height. I concentrate on the Eastern Mediterranean as the crucial *passage obligé* for this trade in this period. Then, I will discuss problems of interpreting these sources between qualitative and quantitative approaches.

5.2 From Malabar to England: The pepper's journey in light of different primary sources

Pepper did not grow on the Indian Malabar coast but further inland. Pepper exists in many varieties, and it is important for the economic historian to know what they are actually dealing with. Biological and historical '*Warenkunde*' literature, that is merchants' and other manuals discussing, clarifying and configuring commodities as economic goods or products of exchange, are a good starting point for historians to familiarise themselves with the products under investigation. Here we shall focus on the black pepper, *piper nigrum*, of the family of the *piperaceae*, a climbing vine native to South India. The fruits are red when harvested and then dried thus gaining the characteristic black colour. In this form pepper was traded since antiquity but became increasingly important in medieval Europe as a condiment (because of its spiciness due to the presence of piperine) with medicinal and (to a lesser extent) preserving qualities.[1]

Pepper travelled from India's Malabar Coast mainly on Indian ships to Hormuz for distribution to Mesopotamia and Persia, and Aden for distribution to North Africa, Syria and the Mediterranean and Europe (whereby some pepper could also come to Syria and the Mediterranean via Hormuz). Besides travelogues, by, for example, Ibn Battuta or Marco Polo[2], we can rely on archaeological and especially ceramological evidence to establish patterns of trade and get a rough sense of its quantitative dimensions. Maritime archaeology, although somewhat under-developed especially for the western Indian Ocean, provides important insights through the study of shipwrecks.[3]

Aden thus was the principal emporium from where a group of merchants, the famous *Kârim*, shipped pepper through the Red Sea towards the Mediterranean. A relatively independent sultanate in our period, Aden produced rich archival material documenting its customs administration, which was studied extensively by Éric Vallet. He combined these sources with traditional historiographic sources, such as chronicles, thus showing the close cooperation between Karimi merchants and the sultanal state.[4] The Karimi merchants were mostly active in the southern part of the Red

Sea, while from Jidda onwards the transport was organised by another group of merchant-sailors although there was considerable overlap, e.g. merchants had started their career as Karimi but then specialised on the onward transport. These merchants were often associated with the Cairo sultan's or, rather, treasury's commercial/customs activities and were probably connected to the imposition of a customs duty in kind on Red Sea pepper. Navigation in the Northern half of the Red Sea was cumbersome. The last stretch was typically effected over land-river routes: from Jidda on camelback via the Sinai Peninsula and Cairo to Alexandria on the Mediterranean shores or from an Egyptian Red Sea port, in our period mainly Qus'eir, on camelback to Qûs' and from there by riverboat on the Nile towards Cairo. Sailing all the way to the Sinai or even Suez was possible despite the considerable navigational difficulties and is more frequently documented for the early modern period.[5] This section of the trade route is only poorly documented but we have local historiography, notably for Mecca or Qûs' as well as archaeological evidence on this trade (esp. for Aydhâb and Quseir).[6] Letters sent by a Venetian agent in Cairo to his consul in Alexandria contain further information. These early fifteenth century letters are an excellent example of early business intelligence but also provide some unexpected new information – the existence of a hitherto almost unknown transhipment port: ᶜAynûnah at the northern head of the Red Sea.[7]

Thus pepper, if not disappearing somewhere on the way and reappearing as smuggled pepper somewhere else, made its way to Cairo (if not to Damascus and Beirut or another Syrian port). From here, a considerable part went to customers in the Islamic world, mainly through the port of Alexandria. Some of the pepper, however, travelled onwards to Latin Europe.[8] In Alexandria, the Venetians among other European trading nations, operating in tight symbiosis with the Mamluks and generously privileged by the sultan, took over this pepper and organised the onward transport to Europe through Venice. Yet before they could do that, they had to acquire the pepper, which meant that they first had to absorb a tax in kind; they collectively had to purchase an amount of the sultan's pepper – probably the very pepper the latter had collected as customs in the Egyptian Red Sea ports or Cairo. The rather complicated negotiations setting price

and quantity of this transaction are documented in a partially preserved private archive of a merchant, who was the Venetian consul in Alexandria at the beginning of the fifteenth century.[9] Normative sources, such as the privileges which Venetians obtained for their trade in Alexandria, often do not show such practices; they crop up only in the shadow of the norms, or with a considerable delay.[10] If they finally do show up, they are presented as top-down and non-negotiable governmental measures/prescriptions.[11] Yet, typically, as the sultan was in Cairo and not involved in the day-to-day business of Alexandria, such measures were negotiated locally, and the Venetians had much more of a say than the normative sources would suggest.[12]

Historiography, however, tends to rely more heavily on these relatively well-preserved privileges as well as Venetian chronicles, which complement this picture in a somewhat distorted way by heavily emphasising the top-down nature and the injustices of such procedures. Hence, it is only by chance that we can get a sneak peek of such practices through so-called 'Überrestquellen', i.e. sources that were not really meant to be preserved for posteriority and that, hence, typically did not survive, such as parts of the private archive of a Venetian consul, as will be discussed below. This allows us to gain a more nuanced and realistic picture of the power dynamics and agencies on the ground. Customs procedures and Venetian consular assessment and taxation procedures are again described in the privileges but also in consular duty lists and in the so-called *pratiche di mercatura* or merchant manuals. A most famous and early example dates from the beginning of the fourteenth century and was authored by Balducci Pegolotti. From the late fourteenth century onward the so-called *tariffe* focus on one particular place and list in overwhelmingly minute detail all sorts of fees and gratuities, which had to be paid for various services as well as the respective taxes. Again, in their list-like and prescriptive format they suggest a static immobility, which the evidence from letters and litigations would question; rather we should see this regulatory framework as a fall-back position that informed and framed the negotiation of actual arrangements.[13]

The life of Venetian merchants in their factory or *fondaco* is relatively well-documented because of numerous travelogues and the private archive

mentioned above. The lives of Egyptian merchants, dockworkers and artisans and the urban texture of Alexandria are further documented by deeds of *awqâf* (pious foundations).[14] More information could be gained by literary sources, which remain, however, underexplored.[15] A related and most expansive source is the voluminous *adab* collection by Nuwayrî al Iskandarânî.[16] Further indications on the social and economic life of Alexandria can be gained from excavations and in particular ceramics (shards). Ceramics came from different parts of the Mediterranean but also from China thus highlighting the network of commercial connectivities and also conjunctures e.g. the decline of imports from (former) Byzantine areas from the thirteenth century onwards.[17]

An extraordinary (although, in its own way, skewed) kind of primary source are business letters – in our case mainly Venetian letters. The survival of such letters is normally a fluke. The famous Datini collection, for instance, survived in a cavity under a staircase. It is a near-complete business archive from the late fourteenth to the early fifteenth century of the firm of Francesco di Marco Datini from Prato that contains thousands of business letters.[18] There is also information on Alexandria in this collection, yet much richer in this respect is a Venetian private archive; the papers of Biagio Dolfin. They provide precious minutiae on life in the fondaco, interactions with Mamluk officials and other merchants. They contain financial documents including ship cargo lists and customs' declarations, petty cash payment receipts but also personal writings, i.e. excerpts from devotional and other readings, and, most importantly, letters with business proposals, instructions for investments, political news and personal information (see chapter 2.3 and 2.4). These papers have survived because of a series of flukes. They survived in the personal archive of a merchant who died without an heir. Then they were taken over, as part of the estate, by a Venetian institution, the *Procuratori di San Marco*, which, among other things, managed bequeathed estates for charitable purposes. Often these private archives seemed to have been purged by the *Procuratori* and only deeds and papers relevant to the management of property/real estate, survived. In this case, however, and for some unknown reason, an extensive set of papers documenting the life of Biagio Dolfin, then Venetian consul in Alexandria, survived. They cover the period from autumn 1418 until his

premature death on a diplomatic mission to the sultan's court in Cairo on 26 April 1420. The circumstances of his death on mission may explain why the documentation was preserved in the first place and transferred to Venice: Immediately after the death of the consul, numerous claims were brought forward against his estate and the consul's young heir, his nephew, left Alexandria with the papers that served as proof against further unjustified claims.[19]

On the Egyptian side a similarly rich source sheds light on a period slightly anterior to the one covered here: The Cairo Geniza collection contains, among other things, an extraordinarily huge amount of business writings mainly from the Fatimid and Ayyubid periods (950–1250). The survival of this rich collection could similarly be put down to a fluke, combined with cultural factors. Sacred texts could (and can) not be discarded in Judaism (a rule also respected in early Islam) and an expansive interpretation of this ruling led to the preservation of all texts containing the name of God in one way or another. This included also business letters invoking the name of God even if only casually or merely using Hebrew script. Owners could dispose of them by depositing them in a storeroom of their synagogue. The storeroom of the Ben Ezra synagogue in Cairo survived, and from the nineteenth century onwards, scholars began analysing this material. These sources give a fascinating insight into the sophisticated business world in the wider Islamic world from India to Sicily and the Maghreb. They show a remarkable continuity in business usages, types of partnerships, accounting etc., from the Fatimid period to the Late Middle Ages and across cultures and religions.[20]

In Alexandria Venetian merchants were supposed to load their pepper (along with other precious goods such as spices and other textiles) on the state regulated merchant galleys, which were run according to an (at least officially) tight schedule in some sort of private-public partnership. The galleys were more secure than round ships, because of their armed oarsmen and additional crossbowmen (later they also disposed of some ship artillery) and their ability to manoeuvre, even in lulls. This came, however, at the price of much higher operating costs. These costs were, to an extent, passed on to the customers through a relatively high freightage. Furthermore, the customers of the galleys paid an additional tax into the communal fund of

the Venetians in Alexandria, the *cottimo*. The incentive to circumvent this monopoly was thus high; one could transport spices at significantly lower cost and with acceptable risk by dividing the merchandise between different carriers and perhaps using maritime insurance. Increasingly, this would jeopardise the profitability of the system. Eventually it did erode the political power to uphold the state galley system although for a surprisingly long time it did not. Rather drastic punishments were enacted to prevent price-dumping by smaller operators. The galley monopoly on precious commodities was upheld for different reasons. Firstly, the merchant galleys were also a strategic galley reserve for the navy. Secondly, their regular yearly arrival with rich freight was a diplomatic asset, some sort of treasure fleet bringing rich revenue to the sultan that could be seen (and rightly so, considering the forced purchase of sultan's pepper) as some sort of tribute. Thirdly, they provided a subsidised and relatively secure entry into business for small entrepreneurs (oarsmen) or young, poor noblemen (as crossbowmen) and finally they might also have increased general security in the Adriatic by their presence.[21]

Detailed travelogues (mentioned above) but also the relatively tight regulation of the galley journeys provide detailed information on the life on these galleys. Another important source is the commonplace book by Michael of Rhodes informing us about many aspects of ships; their design and management including the required bases in mathematics, navigation and time reckoning.[22] Furthermore, we have technical treatises on ship construction and findings from naval archaeology giving us a rather detailed picture of ship design and equipment.[23] Despite all the reasons given above, round ships were far more common visitors to the ports of Alexandria or Venice: not only did they carry the goods technically reserved to the galleys but, more importantly and in conformity with the law, bulk goods such as wine, grain, salt and cotton.[24]

Once in Venice the pepper was sold either locally or to foreign merchants, especially Germans, residing in the famous *Fondaco dei Tedeschi*. Venetians then re-exported a part of the pepper either to the Italian hinterlands or overseas. This also involved trade to England carried out by the famous galleys of Flanders and England, calling on Western Mediterranean ports and eventually Bruges and Southampton.[25]

5.3 Source interpretation: Qualitative vs. quantitative

I hope this short survey highlighted how a more wholesome picture of a historical object can be gained by combining different sources. It might of course seem rather uncontroversial that the integration of a variety of primary sources would improve our reconstruction of the past. The picture, needless to say, will always remain preliminary, incomplete. For historical reality – the past – is as complex as all human interactions are and thus a priori impossible to ever fully reconstruct. I would nevertheless argue that the relatively better picture we obtain through combining sources compared to a picture relying solely or chiefly on one source or type of source makes a big difference. The difference between trying our best (well knowing we will never fully get there) and not really trying (marshalling one or the other good excuse to justify it).

Let me illustrate this with an example. There are studies analysing the European presence in Alexandria chiefly through notarial sources. They provide a range of interesting insights. They, for instance, highlight that the Genoese, although somewhat in decline, were still very strong on the marketplace in Alexandria at the beginning of the fifteenth century. They also illustrate in detail joint business ventures across the cultural divide, i.e. between Muslim Egyptians and Latin Christian Europeans.[26] The notaries producing these sources were Venetians. Venetian merchants, however, are not that strongly represented in these sources compared to other nations e.g. the Genoese. This is not because Venetians were less numerous than other Latin merchants at the beginning of the fifteenth century; so how can we explain this flaw in the source?[27] The simple answer is that one can call on a notary but one does not have to. There are alternatives available for this service except for some crucial deeds, e.g. one's will for which the notary became some sort of a monopolist. However, as far as instructions to merchants, receipts, and even (informal) *procure* (power of attorney) were concerned, Venetians seem often to have preferred relying on more informal internal documents (on paper rather than parchment). But why would Venetians go for this type of documentation rather than the more formalised and official notarial deed? One explication could be that Venetian tribunals

e.g. the famous *Giudizi di Petizion* (another crucial source for economic historians of Venice) accepted letters and other internal documents as evidence in court.[28] Also, within a business model strongly making use of family connections, both agnatic and cognatic, a merchant might not have wanted to or felt the need to recur to notarial documentation. Finally, Venetians in Alexandria engaged in many ventures that were not really in step with Venetian regulations, which might have advised against the use of the Venetian notary.[29]

The letters and other sources contained in private or business archives are thus crucial to highlight the specific focus and representativeness of notarial materials and to complete the image they draw. They also provide, as outlined above, a host of further information not contained in notarial documents. They can, for instance, shed light on dodgy or even straight-out illegal operations. Court cases might shed further light on them. These sources are typically used qualitatively and micro-analytically: historians love to reconstruct the colourful stories of speculations, ventures gone awry, betrayal and accusation – i.e. special cases in history, special scenarios and special forms of human intervention. For if they were not somehow special – why did they end up in court? Even within court cases historians tend to select the particularly colourful ones, those of an extraordinary nature. A quantitative analysis of court cases can thus be an important corrective: how many of the overall cases are of the particular type investigated compared to the overall number of cases preserved? How representative then are these cases for answering a particular question, e.g. whether trade ventures went awry because of religious alterity?

Furthermore, the best mercantile private archives and court cases tend to represent only certain aspects of trade. Even if we diligently compile all the sources we find on Biagio Dolfin and his fellow Venetians, combining chronicles, normative sources (i.e. Venetian and Mamluk legislation), notarial deeds, court cases and the material of the private archive, we still are essentially constructing an extended case study. It is but one experience – however well contextualised and carefully undertaken. We thus always have to ask ourselves how representative this might be with regard to the bigger questions we are tackling, e.g. cross-cultural trade or merchant culture. For one thing, the picture tends to be skewed towards the literary,

élite merchant active in long distance trade. Archaeological sources, e.g. shipwrecks or harbour installations, in combination with sources on port movements, cargo lists, and customs accounts are an important corrective as they confront us with traces of other actors and experiences, hinting at hundreds of other possible case studies. They thus provide a completely different cross-section of the problem – the enriched case study of Biagio Dolfin being a vertical cross-section, the quantitative analysis of trade would be a horizontal one. It helps us reconstruct the volume and the range of objects of trade including everyday objects like ceramics, foods and drink (e.g. Crete wine).[30] Ceramics collected in digs in Alexandria can push a more holistic analysis of the effects and the impact of transcultural trade even further: they can give us a sense on what objects of the long distance trade made it into the common household and what the ratio was between imported and locally sourced objects and goods.[31]

The analysis of ceramological materials and other quantitative data invites us to reconsider other analytical foci. How many Egyptian vs. Latin European vs. Chinese earthenware shards have been found, and how does the distribution change over time and between different parts of the city of Alexandria? A case study of transcultural trade in Alexandria focusing on a merchant or consul, e.g. Biagio Dolfin, by contrast, would be of a mostly qualitative nature. It typically engages in close, critical readings of sources asking who is writing for whom, what, why and so on. The analysis also includes elements informed by narratology and philology, i.e. rhetorical structures, terminology, polemics etc. Yet also these sources contain elements that would lend themselves to quantitative analysis. The entirety of the correspondence can be mapped spatially by places of origin and their destination, by senders, receivers, keywords, listed prices and products etc. This information could then be analysed statistically, studying the speed of transmission of letters, average pepper price quoted, concentration of receivers by location etc.

5.4 Conclusion: Disciplined interdisciplinary and bold modesty

I argued that a combination of different primary sources and methods will give rise to a more well-rounded, wholesome picture. Case studies need to be mapped onto the wider context they are supposed to address. For us this means reconstructing the volume of trade, which is cumbersome and seems risky; it also requires competence in different types of sources and other methods. Nevertheless, it is crucial in order to assess the case study's representativeness. Microhistory needs to speak to the bigger picture to be meaningful or as one historian famously put it: it should not observe the village but the world in the village.[32]

That is the reason why we have to put our historian's hat on and forget our narrow speciality in reading accounts or business letters of a specific place and period when we move on from the first reading of sources to their interpretation and the analysis of the wider problem. Time is always short and we have to make very practical decisions about what to read and at what depth. Ultimately, this is your decision to make. The trend today seems to go towards ever-increasing specialisation and that must not be a bad thing. When you write a thesis or seminar paper it can even be a good and necessary thing. It can help you write something rigorous and original, albeit perhaps on a remote topic such as the life of cats aboard Venetian galleys, or paper icons used by travellers to the Middle East etc. These can be modest but precious contributions to scholarship as long as you clearly acknowledge the limitations of your work. You would clearly state its primary source base and the (narrow) range of consulted secondary literature. You could thus successfully write for a small group of like-minded scholars, who love cats on ships or paper icons. Yet in order to appreciate fully the role of the Venetian ship cat it probably will be instructive to compare them to other ship and land cats and their human interactions or other animals on ships. Or, similarly, the use of paper icons (*ancona di carta*) can be better appreciated in light of other paper (or parchment) objects, such as devotional books and other types of icons and within the wider context of devotional practices at the time and more generally the relationship between business and religion. In order to do this,

you would have to branch out from your little field of investigation; you would have to venture into primary sources you are not familiar with, rely on specialist, i.e. secondary literature from outside of your own scholarly 'tribe'. By doing this you potentially make your work more relevant and wholesome but you make it also potentially less relevant or important to your scholarly 'tribe' or in-group. The incentives to branch out are, therefore, rather weak. I still think that it is a good thing to do – at least sometimes. It makes your work more relevant to a wider audience, it helps you engage with the bigger questions, e.g. animal-human relations, profit and piety etc. These questions will not go away only because historians shirk away from them; they will still be there but answered by others, who, perhaps, are less qualified to answer them. This is what I mean by bold modesty: seek to answer bigger questions, make your work relevant by broad comparison while honestly and modestly acknowledging its limitations.

Therefore, I recommend a balance between, on the one hand, a disciplinary focus and craftsmanship and, on the other hand, inter- or, rather, transdisciplinary analysis and problem solving. This approach could be summed up in the moniker 'disciplined interdisciplinarity'. In order to become an able reader of, say, Venetian business letters, you need to concentrate on this for a while; acquire the necessary linguistic and palaeographical skills, learn about the basics of merchant and contractual law, familiarise yourself with moneys and traded goods, the economic geography. This will take time. You can only do that for so many source types but I do recommend doing it. Acquire a specific historic craft (and, in my humble opinion, deep readings of Foucault (in translation) or Said or knowledge of sophisticated quantitative methods such as regression analysis (see chapters 3 and 8) are not a sufficient substitute for a historian's primary source analytical craftsmanship). Yet when analysing a problem, you should not restrict yourself to a specific set of sources based on your expertise and craftsmanship. Have the courage to dabble, to improvise, while being respectful of the expertise of others. Go out there and get the help you need so that you can address the problem holistically; talk to people, read widely – even outside of what your scholarly tribe considers relevant.

Although this chapter focuses on the Eastern Mediterranean and the Middle Ages, the reader hopefully finds that some of what is said about sources and methods could also apply to other times and geographical contexts. The problems of combining sources and methods, qualitative and quantitative approaches, of striking a good balance between reading your special sources and other sources, between reading your tribe's secondary literature and reading other literature that might help you to gain a fuller picture, are universal in our trade. Similarly universal is another balance to strike – the one between boldness and modesty: be bold in your questions but modestly aware of the limitations in your responses. For all our insights are piecemeal, tentative and preliminary. It is not for us to ever fully unveil historical reality.

Notes

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5 Georg Christ, *A King of Two Seas? Mamluk Maritime Trade Policy in the Wake of the Crisis of the 14th Century*. Ulrich Haarmann Memorial Lecture (Berlin: EB-Verlag, 2017); on early modern navigation: Michel Tuchscherer, "Approvisionnement des villes saintes d'Arabie en blé d'Égypte d'après les documents ottomans des années 1670", *Anatolia moderna* V (1994): 79–99.

6 David Peacock and Lucy Blue, ed., *Myos Hormos - Quseir al-Qadim Roman and Islamic Ports on the Red Sea*. University of Southampton Series in Archaeology 6 (Oxford: Archaeopress, 2001); Li Guo, *Commerce, Culture, and Community in a Red Sea Port in the Thirteenth Century: The Arabic Documents from Quseir*. Islamic History and Civilization 52 (Leiden: Brill,

2004); David Peacock and Andrew Peacock, "The Enigma of 'Aydhab: a Medieval Islamic Port on the Red Sea Coast", *International Journal of Nautical Archaeology* 37, no. 1 (2008): 32–48; Jean Claude Garcin, *Un centre musulman de la Haute-Égypte médiévale: Qûs'* (Cairo, 1976).

7 Georg Christ, "Beyond the Network – Connectors of Networks: Venetian Agents in Cairo and Venetian News Management", in *Everything is on the Move: The Mamluk Empire as a Node in (Trans-) Regional Networks*, edited by Stephan Conermann (Göttingen: V&R unipress, Bonn University Press, 2014), pp. 27–59.

8 Cf. Francisco Javier Apellániz Ruiz de Galarreta, "News on the Bulaq: a Mamluk-Venetian Memorandum on Asian Trade, AD 1503", *EUI Working Papers* HEC (2016/01), http://cadmus.eui.eu/handle/1814/38764 [accessed 18.11.2016].

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12 Christ, *Trading Conflicts*, 229–249.

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6 Origins of capitalism II

Medieval urban property markets: thirteenth-century Coventry revisited

Catherine Casson and Mark Casson

6.1 Introduction

Rent levels and property values in medieval English towns have remained a relatively neglected topic relative to other areas of urban history. While important work has been undertaken in combining surviving documentary evidence with analytical techniques from archaeology and geography, these techniques have not enabled the interaction of property location, property type and the occupations of property holders to be analysed simultaneously.[1] This chapter applies statistical techniques to documentary sources in order to analyse variations in rents and property values of 600 properties in Coventry from 1200–1320.

By 1330 Coventry was one of the largest towns in England.[2] Its records include a collection of early deeds, c.1200–1310, the Hundred Rolls of 1279, a priory rental of 1410–11, guild rentals of 1485, 1529 and 1533 and a muster roll of 1522.[3] Additional biographical information about owners and tenants can be obtained from subsidy rolls, guild registers and statute merchant rolls.[4] This study is focused on the first of these sources: a collection of deeds in the Coventry Record Office transcribed, translated and dated by Coss and analysed statistically by Goddard.[5] This study re-examines the deeds using hedonic multiple regression analysis, implemented using statistical software that was not available to earlier writers.

Existing scholarship on the urban property market has shown the importance of distinguishing between different types of rents in analysis.[6] This chapter distinguishes between seigniorial rents (rents to lords) and ordinary commercial rents (rents to grantors). It also analyses considerations (down-payments or outright purchases – also known as entry fines and *gersuma*). Building on Goddard's analysis, it analyses the relationship between rents and considerations, and confirms his hypothesis that considerations compensate for rigidities in the levels of rents. By combining information on rents and considerations, it estimates the overall values of properties and compares the spatial variation of rents with the spatial variation of values. Finally, it derives estimates of thirteenth-century interest rates based on valuations of perpetual streams of rental payments

reported in the deeds. It shows how interest rates fluctuated over the thirteenth century and how these fluctuations affected property values.[7]

History of Coventry

Coventry is an inland city close to the intersection of several long-distance roads, including Watling Street, from London to Shrewsbury, and the Fosse Way, from Lincoln to Bath. It is served by the River Sherborne and its tributaries.[8] The combination of geographical centrality, good road communications and an abundant supply of flowing water made Coventry ideal as a location for premodern manufacturing activity. Coventry developed a highly profitable export trade in wool, became a major centre for the woollen clothing industry and was particularly well known for the production of caps.

Tradition suggests that a Saxon monastic settlement was established in Coventry by Saint Osburg around 700. About 1043 a Benedictine monastery was founded by Earl Leofric and his wife Lady Godiva, who was the major local landowner, but after her death in 1067 her lands were re-distributed; Domesday records that a certain Nicholas held her lands at farm from the king.[9] By 1100 the monastery had become a priory. There was a regular market outside the priory gate and in 1228 an annual three-day fair was chartered.

One of the notable features of medieval Coventry was that both the Earls of Chester and the Prior claimed lordship over parts of the town. The Prior controlled the Market Place and the north of the town, while the Earl controlled the castle area and the land to the south, including the main east-west street.[10] Earls Ranulf I and II seem to have granted privileges to the burgesses of Coventry, although these are known only from a partially or wholly forged charter confirmed by Henry II; Ranulf III granted his own charter, recently re-dated to 1199–1202.[11] These charters gave the burgesses of Coventry the same rights as the burgesses of Lincoln. On his death, Ranulf's lands in Coventry passed to his sister, wife of the Earl of Arundel. The Earl built a moated manor house at Cheylesmore, south of the town centre, on what may have been the site of a hunting lodge.[12] His heir, Roger

de Montalt, figures prominently in the thirteenth century deeds. The Montalt lordship was purchased by the Prior in 1249.[13]

The impact of this dual jurisdiction on the town has been debated. Dormer Harris argued that the two halves of the town were very different and that during the thirteenth century there was considerable social unrest prompted by conflicts between them.[14] Lancaster and Tomlinson endorse this view, although it has been questioned by Davis, Coss and Goddard.[15] The two halves were present during the period of this paper, although in 1345 the town became incorporated at the instigation of Queen Isabella, widow of Edward II, and tri-partite indenture of 1355 effectively united the jurisdictions of the two halves, with the Queen and civic authorities gaining the upper hand over the Prior.[16]

Sources

The Coventry deeds provide information on rents, considerations, types of property and family relationships between buyers and sellers. They distinguish between rents paid to sellers (grantors) and rents paid to lords (from whom the seller, either directly or indirectly, held the property). They normally describe the boundaries of the property concerned, and thereby allow the area in which the property was located to be determined. Sometimes the occupation of the buyer or seller is mentioned, and in other cases it may be inferred from the person's name. Many of the deeds are undated, but approximate dates have been inferred by Coss from internal cross-referencing and from the names of witnesses who were alive at the time.[17]

Most surviving deeds involve the transfer of real property, but some involve only the transfer of rents. Some deeds involve outright purchase with no rent obligation while others involve only rents and no lump-sum payment. Some deeds relate to a portfolio of properties; in such cases rental information is generally given on each property, but the consideration paid relates to the portfolio as a whole.[18]

Three examples illustrate these points:

Example 1: Charter (c.1220–c.1225) of Richard de Aula giving to Richard Meu and his heirs the entire land at Broadgate in Coventry '… to

be held by him and his heirs of the grantor and his heirs, in fee and inheritance freely, rendering annually 6s. of silver …' Richard gave 2 marks of silver in recognition.

Comment: The buyer (Meu) pays the seller (de Aula) with a combination of a down-payment (2 marks = £1.6s. 8d.) and a perpetual rent of 6s.

Example 2: Remise and quitclaim (1295–1297) by Robert le Mareschal of Coventry giving to Henry le Mareschal his brother 5s. annual rent with appurtenances in Coventry 'to be taken … from a certain seld at Broadgate where the grantor's forge is sited … to be held to him, his heirs or assigns, freely and hereditarily, of the chief lords of that fee ….' Henry gave 40s. sterling beforehand.

Comment: A rent of 5s. was paid on a seld, although because the seld was not actually sold no consideration is involved. The main point of the document is that 5s. perpetual rent was sold for 40s., implying an interest rate of (5/40) x 100 = 12.5 per cent.

Example 3: Charter (late 1240s) of Alice daughter of Geoffrey the Saddler in her widowhood and free power giving to Athelard the Painter and Margery his wife '… the entire land and appurtenances which Geoffrey her father gave to her in free marriage … to be held to them and their heirs, the tenement at Cheylesmore for ever and the tenement at Broadgate after the death of the grantor, freely and quietly, by rendering annually after her death from the tenement at Broadgate 26d. to William Brond and his heirs issuing from Christine his wife, and from the tenement at Cheylesmore 4d. to William de Sallowe and his heirs … Athelard and William the Painter gave 3s. of silver for the grantor's support'.

Comment. This complex deed transfers two properties, both of which carry perpetual rents payable to different parties, but there is just a single consideration of 3s. Because the rents are so different, the consideration is imputed in proportion to the rents, namely 31d. to the Broadgate property and 5d. to the Cheylesmore property. The document also highlights the role of women in property transfer; with respect to the grantor in terms of dower and widowhood; and with respect to the grantees as wives and begetters of heirs. The deed also implies that the grantor was living in the Broadgate property. The men's names provide useful information on occupations.

The regression analysis is based on a sample of 692 deeds, identified as documents 40–731 in Coss.[19] Missing information meant that 145 deeds were rejected. Since some deeds provide information on multiple properties, the remaining 547 deeds generated 638 usable observations.

In 452 cases a consideration was paid, or it is known that no consideration was paid. In these cases a direct comparison of rent and consideration can be made. The average values were 2s.10d. and £1 15s. 11d. respectively, so that on average a consideration was 12.81 times average rent. The sample distributions of rents and considerations are highly skewed, however, which makes comparisons of averages misleading (see below).

In 339 cases it is possible to identify the rent paid to the grantor, and in 202 cases the rent paid to the lord. In 68 cases, however, the deed simply states that there were unspecified obligations to the lord. Some of these obligations may have been token payments made in kind; many deeds refer to the provision of one or two men for one day in autumn, one or two hens at Christmas, a pair of gloves, or a clove gilly-flower at Easter. It is possible, though, that they may have been monetary payments of significant value, and evidence from the regressions suggests that this may indeed have been the case.

Methodology

The value of properties is analysed using hedonic regression, which is widely used in studies of modern property markets.[20] The basic postulate, informed by urban economic theory, is that the rent of a property, or its purchase price, depends on its characteristics, such as size, location and use.[21] If the supply of property in a town is taken as given then the hedonic regression captures factors influencing demand.

Three main types of hedonic regression are estimated in this study. The first examines the impact on the levels of rent of the approximate location of the property; the type of property, the occupation of the buyer of the property, and personal factors relating to grantors and grantees. These include whether the grantors are a married couple, whether the grantor or grantee is a single woman (spinster or widow), and whether the grantors

and grantees are related to each other. Information on leases is also included; whether the property was leased, and if so for how long, and whether for a fixed term of years, or for the life of the grantor or grantee. Other factors include whether the property incurs unspecified obligations to the lord of the fee. Each deed was allocated to one of six time periods: five twenty-year periods between 1200 and 1300 and a final period 1300–1309. These periods were selected so that a minimum of 40 deeds was included in each period. The date of the deed was not entered directly into the regression because it is often known only approximately. Separate regressions are estimated for gross rent paid by the property-owner, rent paid to the grantor and rent paid to the lord of the fee. A small number of rents are also paid to other people, mainly charitable institutions. Rents paid to others are included in gross rent, but are not analysed separately because there are too few observations.

In the second type of regression the dependent variable is the logarithm of the consideration. The explanatory variables include all the variables used in the rent regression, together with the logarithm of the rent. The impact of rent on the consideration plays a crucial role in the analysis. Theory suggests that for a given property a high consideration will therefore be associated with a low rent and a low consideration with a high rent, i.e. there will be a negative relationship between the two. The trade-off between rent and consideration reflects an implicit discount factor, r, which cannot be observed directly, but can be inferred from the data. Suppose that a perpetual obligation to pay 1d. perpetual annual rent is valued at an amount yd.; then yd. represents the number of 'years' purchase' associated with a stream of annual unit payments. It can be shown that the discount factor is $r = 100/y$. For example, 5 year's purchase is equivalent to a discount rate of 100/5 = 20 per cent. Under certain conditions this discount factor can be interpreted as a rate of interest.

The third type of regression takes the logarithm of the implicit value of a property as the dependent variable. The implicit value is calculated by adding consideration to some multiple of total rent. The multiplier is based on the discount factor, e.g. if a discount factor of 20 per cent is assumed then the multiplier is 5, and so value is measured by Consideration *plus* 5 x Rent. Different regressions are run for different discount factors. The

regressions reported in the tables corresponds to the number of years' purchase that gives the best fit to the data.

Defining and measuring the variables

To implement the regression analysis it was necessary to identify sets of explanatory variables spanning time, space, occupation and other relevant personal characteristics. Many of these explanatory variables are dummy variables, i.e. variables taking a value of one if some characteristic applied to a property and zero otherwise. A dummy variable needs to have a minimum of about six positive values in order to stand any chance of producing a statistically significant result. Some rare characteristics need to be merged into a single composite characteristic in order to comply with this requirement, as explained below. The categories used, and the number of positive values in each, are summarised in Table 6.1

Table 6.1 Profiles of occupations and personal characteristics

Occupations	*Number in each occupation*	*Grantor and grantees*	*Number of grantors/ees*
Merchant, draper	69	Married grantors	74
Clerk, chaplain	22	All grantors are female	101
Baker, miller	26	Married grantees	114
Vintner, brewer, cellarer, port wine dealer	6	All grantees are female	35
Food-worker: Fishmonger, butcher, butter-maker	8	Grantors and grantees are related (son, daughter, brother, sister etc.)	67
Cloth-worker: weaver, clothier, comber, dyer, dubber, tailor, parmenter	27	Gift	14
Leather-worker: tanner, saddler, cordwainer (shoe-maker), glove-maker, purse-maker	22	Lease	46
Metal-worker: smith, goldsmith, lead-beater, farrier, girdler, brooch-maker, scabbard-maker, clock-maker, engineer	17	Lease for grantor's life	7
Wood-worker: carpenter, turner, bowstring-maker, cross-bow-maker	7	Lease for grantee's life	11
Other artisan: handler, soap-maker, cook, painter, gardener, 'mirourer', 'paumer', 'poleter', 'parleur', 'foleur', 'tippere'	13		
TOTAL	195		

Note: Source Coss, *Records*.

As noted above, six time periods are distinguished, each associated with a different dummy variable that takes the value one if a deed is dated to the period and zero otherwise. The smallest number of deeds (48) is dated to the first period, 1200–1219, and the largest number (200) to the period 1280–99. To allocate a deed to a time period in doubtful cases, the earliest date is used. The classification by time is mutually exclusive and collectively exhaustive; the complete set of dummy variables is therefore multi-collinear, and so one dummy variable (the 'control') needs to be dropped. The control acts as a base line with which the impact of the other dummies is compared. The middle period of 1260–79 is chosen as the time control.

Fifteen different types of property are distinguished in Table 6.2: 11 are mainly urban, four mainly rural and one – namely land – is generic. Properties are classified according to the way that they are described in the deeds. Unlike the time classification, the categories of property are not mutually exclusive; e.g. 'tenements' said to include 'buildings' are given a dual classification. Sometimes the same property is described in different ways, either in the same deed or in different deeds clearly relating to the same property, in which case both descriptions are applied. The ambiguity of terms is reflected in the statistical results, which identify only a few types of property as having distinctive levels of rent.

Table 6.2 Determinants of rent: regressions of logarithm of rent

Variable	*Time and location only*	*Add type of property*	*Full equation*
Constant	2.232*** (0.000)	2.092*** (0.000)	2.278 (0.000)
Time (Control = 1260–79)			
1200–1219	0.106 (0.635)	-0.065 (0.753)	-0.077 (0.708)
1220–1239	0.056 (0.779)	0.088 (0.661)	0.007 (0.974)
1240–1259	0.035 (0.839)	0.037 (0.823)	0.019 (0.911)
1280–1299	-0.267 (0.126)	-0.402** (0.023)	-0.187 (0.276)
1300–1309	0.233 (0.330)	0.069 (0.775)	0.305 (0.180)
Street location (Control = Spon Street)			
Central			

Variable	*Time and location only*	*Add type of property*	*Full equation*
Market area	1.096*** (0.000)	1.062*** (0.000)	0.961*** (0.000)
Bayley Lane	0.837* (0.095)	0.603 (0.235)	0.652 (0.150)
Broadgate	1.219*** (0.000)	1.108*** (0.000)	0.932*** (0.001)
Earl St.	0.472* (0.068)	0.346 (0.184)	0.387 (0.127)
Smithford St.	0.692** (0.015)	0.582** (0.032)	0.527* (0.068)
Peripheral			
Bishop Lane	-0.427 (0.207)	-0.359 (0.313)	-0.424 (0.205)
Cook St.	-0.170 (0.682)	-0.086 (0.838)	-0.054 (0.884)
Well Lane	0.037 (0.899)	0.015 (0.960)	-0.024 (0.934)
West Orchard	-0.683 (0.176)	-0.767* (0.078)	-0.731* (0.100)
Lower Park St.	0.119 (0.603)	0.129 (0.563)	0.116 (0.591)
Much Park St.	-0.060 (0.852)	-0.347 (0.258)	-0.176 (0.515)
Cheylesmore Lane	-0.212 (0.518)	-0.227 (0.482)	-0.147 (0.689)
Gosford St.	0.524** (0.028)	0.232 (0.262)	0.245 (0.240)
Suburban/rural etc.			
St. Nicholas area	0.132 (0.545)	0.247 (0.287)	0.247 (0.284)
Whitemore	-0.411 (0.292)	-0.495 (0.282)	-0.520 (0.233)
Hill St.	0.438* (0.078)	0.344 (0.123)	0.184 (0.393)
Side Lane	-0.296 (0.497)	-0.136 (0.729)	-0.139 (0.661)
Type of property: mainly urban			
Chief messuage, chamber solar hall		0.338 (0.936)	0.305 (0.422)
Curtilage		-0.016 (0.936)	-0.061 (0.749)
Croft, toft, cottage		0.093 (0.817)	0.023 (0.948)
Forge, kiln, oven, bakehouse		0.406 (0.496)	0.071 (0.899)

Variable	*Time and location only*	*Add type of property*	*Full equation*
House		0.443* (0.095)	0.356 (0.151)
Building(s)		0.170 (0.510)	0.186 (0.434)
Messuage		0.310* (0.067)	0.302* (0.053)
Mill		3.199*** (0.000)	3.422*** (0.000)
Seld or shop		0.597 (0.153)	0.520 (0.139)
Tenement		0.582*** (0.005)	0.481** (0.014)
White Cellar (in or adjoining)		1.497*** (0.004)	1.332*** (0.002)
Type of property: mainly rural			
Barn, garden, fishpond		0.915** (0.034)	0.695* (0.099)
Field		0.248 (0.517)	0.330 (0.249)
Meadow		0.189 (0.624)	-0.045 (0.901)
Moor, pasture, quarry		0.090 (0.848)	0.046 (0.923)
Number of properties of given type			
Multiple		-0.012 (0.966)	0.054 (0.828)
Part (moiety)		-0.378** (0.036)	-0.252 (0.141)
Occupation of grantee (*Control = no stated occupation*)			
Merchant: mercer, draper			-0.007 (0.976)
Clerk, chaplain			0.032 (0.909)
Baker, miller			-0.064 (0.764)
Vintner, brewer, cellarer			-0.809 (0.224)
Food-worker			-0.122 (0.778)
Cloth-worker			-0.025 (0.912)
Leather-worker			-0.013 (0.963)

Variable	*Time and location only*	*Add type of property*	*Full equation*
Metal-worker			0.092 (0.751)
Wood-worker			0.463 (0.374)
Other artisan			-0.360 (0.314)
Personal status of the parties			
Grantors are husband and wife			-0.066 (0.676)
Grantor a female other than wife			-0.340* (0.052)
Grantees are husband and wife			0.117 (0.484)
Grantee a female other than wife			-0.255 (0.353)
Grantor and grantee are related			-0.297 (0.151)
Gift to unrelated grantee			-0.355 (0.267)
Terms of contract			
Unspecified obligation to lord			-1.706*** (0.000)
Lease (yes/no)			0.169 (0.639)
Number of years of lease			0.047*** (0.008)
Lease for grantor's life (yes/no)			0.361 (0.649)
Lease for grantee's life, (yes/no)			0.130 (0.832)
R^2	0.089	0.206	0.351
Adjusted R^2	0.056	0.154	0.284
F-statistic	2.731*** (0.000)	3.982*** (0.000)	5.198*** (0.000)
Jarque-Bera normality test	4.610 (0.100)	18.310*** (0.000)	7.933** (0.019)
Breusch-Godfrey heteroskedasticity F-test	3.162*** (0.000)	3.116*** (0.000)	1.503** (0.011)
Number of observations	638	638	638

Source: Coss, *Records*.

Note: Probability values are derived from White heteroskedasticity-robust standard errors.

Locations are identified using a hierarchy of categories. Several lanes in Coventry appear very infrequently in the deeds, e.g. Dead Lane and Paulines Lane, and they were merged into categories based on neighbouring main streets. Following Coss's classification the areas around the market and around St. Nicholas church were also used as location categories.[22] At a higher level of aggregation, these basic categories were grouped into central, peripheral and suburban areas, and also by whether they were in the Prior's half or the Earl's half (Bayley Lane was on the boundary between the two). One area, Whitemore, is a mainly rural area on the fringes of the suburbs. Both classifications of streets are mutually exclusive and collectively exhaustive, using the area around Spon Lane (a suburb in the Earl's half that has many properties) as the control. There is also an independent distinction between main streets and side streets.

Ten types of occupation are identified. The focus is on the occupation of the buyer or tenant (i.e. grantee). A buyer's occupation may influence their choice of property and competition between buyers will influence property values; the occupation of a buyer may therefore reflect unrecorded characteristics of a property (namely suitability for a certain occupation) that influence its value and are not fully captured by its location (for the agglomeration of certain trades in certain parts of the town see Coss, 1986, pp. xxxv–xxxvii).[23] There are only 195 cases where the grantee's occupation can be identified. Properties with unidentified occupations are the largest group and they are used as the control group. The largest and most homogeneous occupational group is the merchants and drapers; the smallest groups tend to be the most heterogeneous, e.g. the food-workers and wood-workers (see Table 6.1).

So far as personal characteristics are concerned, there are 74 cases of married grantors and 114 cases of married grantees. The higher number of married grantees appears to reflect the settlement of properties by parents on their newly-married children. There are 101 cases of females acting independently of husbands as grantors, and 35 cases of females as grantees. The predominance of female grantors seems to reflect the role of widows in disposing of properties (often acquired as dowries). Grantors and grantees are related in 67 cases, although there may be other cases too because

relationships are not always made explicit in the deeds. In 14 cases an outright gift of property is made.

The sizes of properties are difficult to estimate. Terms such as *messuage* or *curtilage* may be approximate indicators of size, although direct evidence is weak; the descriptions of boundaries in the deeds are normally inconclusive. The condition of a property is rarely described in deeds – unlike rentals, where properties may be described as vacant or decayed.

6.2 Key findings

The results of the hedonic regressions are reported in Tables 6.2– 6.4. Each table follows the same format. The explanatory variables are listed in the left-hand column. The results in each column refer to a different estimation. In each cell an estimated regressions coefficient is shown, with its significance level, expressed as a probability value, in brackets beneath. Each coefficient measures the direction and magnitude of the impact of an explanatory variable on the dependent variable, controlling for variation in the other variables. Asterisks indicate whether the coefficient is significantly different from zero at some critical significance level, the highest level, indicated by 3 asterisks corresponding to 1 per cent significance (equivalent to a probability value less than or equal to 0.01).

Table 6.2 presents logarithmic regressions for gross rent. Table 6.2 illustrates the principles of hedonic multiple regression by demonstrating how the coefficients on the explanatory variables in a multiple regression change as additional explanatory variables are added. Column 1 includes only a constant term and dummies for time and location. In column 2 dummies for the type of property are added, so that the impact of time and location on rent is now analysed conditional on type of property (and conversely). In column 3 dummies for occupation, personal characteristics and terms of contract are included, giving the full regression in which every factor is analysed conditional on every other.

Table 6.3 analyses consideration. Column 1 uses exactly the same variables as the rent regression, permitting a direct comparison with Table 6.2, column 3. Rent is likely to influence consideration, however, so column 2 conditions the consideration regression by adding gross rent as an additional explanatory variable. Column 3 disaggregates rent into rent to grantors and rent to lords. Column 4 analyses the implicit value of a property; this is a weighted average of the rent and consideration, as described in section 6 below.

Table 6.3 Determinants of consideration: regressions of logarithm of consideration

Variable	*Column 1Unconditional*	*Column 2Conditional on rent*	*Column 3Conditional on type of rent*	*Column 4Value*
Constant	3.951*** (0.000)	5.039*** (0.000)	4.656*** (0.000)	4.849*** (0.000)
Time (*Control = 1260–79*)				
1200–1219	0.725* (0.090)	0.684* (0.093)	1.143*** (0.004)	0.019 (0.926)
1220–1239	1.037*** (0.010)	1.018*** (0.010)	1.133*** (0.001)	0.486** (0.016)
1240–1259	0.504 (0.139)	0.442 (0.186)	0.531* (0.096)	-0.049 (0.792)
1280–1299	0.089 (0.794)	-0.087 (0.780)	0.034 (0.912)	-0.096 (0.517)
1300–1309	0.386 (0.419)	0.483 (0.255)	0.764* (0.070)	0.633*** (0.002)
Street location (*Control = Spon Street*)				
Central				
Market area	0.237 (0.686)	0.993* (0.088)	1.368** (0.019)	1.327*** (0.000)
Bayley Lane	0.070 (0.940)	0.473 (0.577)	0.486 (0.507)	1.024*** (0.010)
Broadgate	0.122 (0.835)	0.826 (0.207)	0.680 (0.318)	0.741** (0.016)
Earl St.	1.055*** (0.008)	1.385*** (0.000)	1.544*** (0.000)	1.261*** (0.000)
Smithford St.	0.765 (0.194)	1.155** (0.032)	1.085* (0.056)	0.911*** (0.001)
Peripheral				
Bishop Lane	-0.547 (0.429)	-0.610 (0.327)	-0.542 (0.359)	0.358 (0.213)
Cook St.	-1.036 (0.461)	-1.264 (0.299)	-0.949 (0.386)	-0.027 (0.955)
Well Lane	0.800 (0.193)	0.814 (0.161)	0.699 (0.220)	0.752** (0.017)
West Orchard	-1.021 (0.120)	-1.397** (0.017)	-1.102* (0.060)	-0.391 (0.268)
Lower Park St.	0.366 (0.392)	0.515 (0.220)	0.414 (0.292)	0.372 (0.135)
Much Park St.	0.057 (0.930)	-0.114 (0.839)	-0.079 (0.881)	0.937*** (0.002)
Cheylesmore Lane	-1.101* (0.071)	-1.047** (0.050)	-0.797 (0.118)	-0.383 (0.328)
Gosford St.	-0.414 (0.333)	-0.177 (0.669)	-0.064 (0.873)	0.292 (0.186)
Suburban and rural				

Variable	*Column 1Unconditional*	*Column 2Conditional on rent*	*Column 3Conditional on type of rent*	*Column 4Value*
St. Nicholas area	0.649 (0.261)	0.888 (0.108)	0.938* (0.081)	0.990*** (0.001)
Whitemore	0.116 (0.912)	0.033 (0.975)	-0.168 (0.861)	0.380 (0.357)
Hill St.	-0.378 (0.496)	-0.097 (0.858)	0.121 (0.830)	0.290 (0.325)
Main street/side street				
Side lane	0.153 (0.848)	0.125 (0.858)	0.223 (0.720)	-0.492 (0.168)
Type of property: mainly urban				
Chief messuage, chamber solar hall	-0.586 (0.385)	-0.334 (0.540)	0.286 (0.598)	0.745*** (0.008)
Curtilage	-0.797** (0.029)	-0.730** (0.026)	-0.776** (0.021)	-0.231 (0.159)
Croft, toft, cottage	-0.799 (0.338)	-0.496 (0.519)	-0.186 (0.789)	0.196 (0.445)
Forge, kiln, oven, bakehouse	0.665 (0.498)	0.825 (0.453)	0.555 (0.604)	0.577 (0.226)
House	0.316 (0.613)	0.465 (0.421)	0.240 (0.662)	0.349 (0.163)
Building(s)	0.602 (0.124)	0.795** (0.031)	0.590 (0.106)	0.755*** (0.000)
Messuage	0.487* (0.097)	0.694** (0.011)	0.586* (0.029)	0.498*** (0.002)
Mill	-1.747* (0.075)	0.367 (0.011)	0.645 (0.466)	1.863*** (0.000)
Seld or shop	-0.566 (0.560)	-0.328 (0.687)	-0.267 (0.753)	-0.039 (0.915)
Tenement	0.099 (0.837)	0.301 (0.506)	0.389 (0.370)	0.327 (0.191)
White Cellar (in or adjoining)	1.197 (0.202)	2.207*** (0.008)	1.892* (0.053)	1.148*** (0.001)
Type of property: mainly rural				
Barn, garden, fishpond	-1.194 (0.286)	-0.540 (0.632)	-0.625 (0.619)	0.220 (0.648)
Field	0.111 (0.889)	0.304 (0.687)	0.374 (0.610)	0.169 (0.647)
Meadow	1.992** (0.012)	1.908*** (0.009)	1.705** (0.014)	0.862*** (0.004)
Moor, pasture, quarry	0.075 (0.951)	-0.026 (0.984)	0.252 (0.852)	0.582 (0.365)
Number of properties				
Multiple	-0.000 (0.100)	0.099 (0.840)	0.167 (0.714)	0.281 (0.283)

Variable	*Column 1Unconditional*	*Column 2Conditional on rent*	*Column 3Conditional on type of rent*	*Column 4Value*
Part (moiety)	-0.012 (0.966)	-0.089 (0.737)	0.054 (0.840)	-0.413*** (0.007)
Occupation of grantee				
Merchant: mercer, draper	-0.206 (0.627)	-0.192 (0.633)	-0.112 (0.775)	0.049 (0.811)
Clerk, chaplain	0.359 (0.676)	0.050 (0.949)	0.086 (0.914)	-0.025 (0.959)
Baker, miller	-0.999 (0.120)	-1.033* (0.096)	-1.159* (0.055)	-0.469 (0.131)
Vintner, brewer, cellarer	-0.719 (0.537)	-1.064 (0.208)	-0.825 (0.326)	-0.344 (0.236)
Food-worker	-0.169 (0.803)	-0.068 (0.924)	-0.018 (0.981)	-0.617 (0.123)
Cloth-worker	0.134 (0.769)	0.092 (0.829)	0.183 (0.665)	-0.063 (0.723)
Leather-worker	-1.638*** (0.010)	-1.672*** (0.005)	-1.476*** (0.007)	-0.376 (0.208)
Metal-worker	-1.017 (0.108)	-1.086** (0.045)	-0.743 (0.114)	-0.429* (0.082)
Wood-worker	0.695 (0.218)	0.991* (0.052)	0.818 (0.084)	-0.085 (0.688)
Other artisan	0.116 (0.871)	0.000 (1.000)	-0.068 (0.927)	-0.337 (0.418)
Personal status of the parties				
Grantors are husband and wife	0.512 (0.128)	0.390 (0.221)	0.266 (0.374)	-0.085 (0.570)
Grantor a female other than wife	-0.441 (0.130)	-0.720*** (0.009)	-0.761*** (0.005)	-0.557*** (0.002)
Grantees are husband and wife	-0.345 (0.277)	-0.265 (0.369)	-0.334 (0.242)	-0.001 (0.995)
Grantee a female other than wife	0.417 (0.450)	0.219 (0.668)	0.055 (0.918)	-0.303 (0.342)
Grantor and grantee are related	-2.668*** (0.000)	-2.799*** (0.000)	-3.030*** (0.000)	-1.407*** (0.000)
Gift to unrelated grantee	-3.073*** (0.000)	-3.362*** (0.000)	-3.466*** (0.000)	-1.941*** (0.000)
Terms of contract				
Unspecified obligation to lord	1.459*** (0.000)	0.603* (0.054)	0.892*** (0.005)	0.231 (0.221)
Lease (yes/no)	-1.414* (0.069)	-1.293* (0.052)	-1.228** (0.050)	-0.328 (0.184)
Number of years of lease	0.034 (0.470)	0.062 (0.168)	0.076 (0.056)	0.039*** (0.001)

Variable	Column 1Unconditional	Column 2Conditional on rent	Column 3Conditional on type of rent	Column 4Value
Lease for grantor's life (yes/no)	-1.035 (0.304)	-0.882 (0.334)	-0.522 (0.548)	-0.069 (0.923)
Lease for grantee's life, (yes/no)	-0.649 (0.545)	-0.444 (0.636)	0.103 (0.906)	-0.070 (0.889)
Log rent		-0.544*** (0.000)		
Log rent to lord			-0.213** (0.039)	
Log rent to grantor			-0.665*** (0.000)	
R^2	0.363	0.436	0.473	0.506
Adjusted R^2	0.266	0.348	0.389	0.430
F-statistic	3.720*** (0.000)	4.943*** (0.000)	5.641*** (0.000)	6.664*** (0.000)
Jarque-Bera normality test	15.963**** (0.000)	4.020 (0.134)	4.303 (0.116)	30.844*** (0.000)
Breusch-Godfrey heteroskedasticity *F*-test	0.530*** (0.010)	2.013*** (0.000)	2.100*** (0.000)	1.537*** (0.009)
Number of observations	452	452	452	452

Source: Coss, *Records*.

Note: See Table 6.2. Value = Log(1 + Consideration + (5 x Rent)).

Table 6.4 analyses the two components of rent using the high level location characteristics. The results for gross rents are reported in column 1, for rents to grantors in column 2 and for rents to lords in column 3; column 4 gives comparable results for considerations.

Table 6.4 Analysis of rent and consideration by component of rent and area of city

Variable	Column 1 Gross rent	Column 2 Rent to grantor	Column 3 Rent to lord	Column 4Consid'n
Constant	2.378*** (0.000)	2.631*** (0.000)	2.508*** (0.000)	3.779*** (0.000)
Time (Control = 1260–79)				
1200–1219	-0.076 (0.710)	-0.490** (0.031)	1.112* (0.051)	0.758* (0.067)
1220–1239	0.035 (0.860)	-0.193 (0.337)	-0.045 (0.878)	0.998** (0.012)
1240–1259	0.037 (0.827)	-0.393* (0.080)	-0.028 (0.892)	0.441 (0.203)
1280–1299	-0.197 (0.236)	-0.091 (0.655)	0.023 (0.928)	0.026 (0936)

Variable	*Column 1 Gross rent*	*Column 2 Rent to grantor*	*Column 3 Rent to lord*	*Column 4Consid'n*
1300–1309	0.303 (0.173)	0.157 (0.505)	0.418 (0.385)	0.290 (0.541)
Location (*Controls = Prior's half, peripheral and Earl's half, peripheral*)				
Prior's half	-0.337* (0.079)	0.239 (0.306)	0.092 (0.739)	0.130 (0.758)
Prior' half central: Market area	1.194*** (0.000)	0.639** (0.015)	1.251** (0.011)	0.287 (0.782)
Bayley Lane	0.584 (0.161)	0.631 (0.183)	0.831** (0.013)	0.245 (0.782)
Earl's half central, Earl St., Broadgate, Smithford St.	0.422** (0.017)	0.626*** (0.001)	0.644*** (0.004)	1.094*** (0.000)
Prior's half, suburban: St. Nicholas	0.480** (0.041)	-0.074 (0.785)	0.408 (0.234)	0.702 (0.270)
Earl's half suburban: Spon St. and Hill St.	-0.043 (0.780)	0.165 (0.303)	0.266 (0.316)	0.128 (0.696)
Prior's half, rural: Whitemore	-0.320 (0.472)	-1.448*** (0.000)	0.267 (0.585)	0.111 (0.917)
Side lane	-0.214 (0.503)	-0.016 (0.959)	-0.176 (0.688)	0.305 (0.674)
Type of property: mainly urban (*Control = Land*)				
Chief messuage, chamber solar hall	0.380 (0.309)	0.331 (0.290)	-1.071** (0.037)	-0.554 (0.430)
Curtilage	-0.068 (0.721)	-0.149 (0.506)	-0.351 (0.267)	-0.757** (0.042)
Croft, toft, cottage	0.013 (0.971)	0.305 (0.318)	-1.066** (0.041)	-0.934 (0.247)
Forge, kiln, oven, bakehouse	0.145 (0.793)	-0.032 (0.935)		0.505 (0.628)
House	0.313 (0.193)	0.305 (0.147)	0.895*** (0.005)	0.089 (0.882)
Building(s)	0.171 (0.469)	0.531 (0.160)	0.203 (0.533)	0.517 (0.179)
Messuage	0.265* (0.083)	0.512** (0.014)	0.218 (0.341)	0.430 (0.135)
Mill	3.515*** (0.000)	2.845*** (0.000)	1.610* (0.053)	-1.821* (0.074)
Seld or shop	0.524 (0.124)	0.646** (0.012)	-0.514 (0.303)	-0.577 (0.540)
Tenement	0.465** (0.014)	0.199 (0.308)	-0.009 (0.979)	0.138 (0.774)
White Cellar (in or adjoining)	1.113*** (0.006)	0.321 (0.516)	2.138*** (0.000)	1.429 (0.108)

Variable	*Column 1 Gross rent*	*Column 2 Rent to grantor*	*Column 3 Rent to lord*	*Column 4Consid'n*
Type of property: mainly rural (*Control = land*)				
Barn, garden, fishpond	0.604 (0.115)	0.684 (0.287)	0.014 (0.968)	-1.092 (0.364)
Field	0.383(0.166)	0.640*** (0.005)	-1.138* (0.052)	-0.003 (0.996)
Meadow	0.004 (0.991)	-0.221 (0.583)	1.224** (0.042)	1.902 (0.013)
Moor, pasture, quarry	0.090 (0.848)	0.586* (0.058)	0.593* (0.066)	0.560 (0.665)
Number of properties of a given type				
Multiple	0.101 (0.683)	0.049 (0.861)	-0.425 (0.176)	0.083 (0.873)
Part (moiety)	-0.273 (0.103)	-0.019 (0.920)	-0.097 (0.632)	-0.144 (0.589)
Occupation of grantee				
Merchant: mercer, draper	0.021 (0.928)	0.403* (0.083)	0.266 (0.379)	-0.140 (0.740)
Clerk, chaplain	-0.025 (0.926)	0.290 (0.320)	-0.874* (0.069)	0.450 (0.597)
Baker, miller	-0.045 (0.830)	-0.310 (0.228)	-0.228 (0.400)	-0.880 (0.175)
Vintner, brewer, cellarer	-0.716 (0.289)	-0.511 (0.505)	-1.682*** (0.000)	-0.713 (0.543)
Food-worker	-0.060 (0.880)	-0.035 (0.965)	-0.909*** (0.007)	0.166 (0.819)
Cloth-worker	-0.095 (0.675)	0.107 (0.684)	-0.530 (0.135)	-0.013 (0.977)
Leather-worker	0.020 (0.940)	-0.152 (0.712)	-0.680 (0.129)	-1.610*** (0.009)
Metal-worker	0.137 (0.625)	-0.000 (0.999)	-0.670* (0.085)	-0.968 (0.131)
Wood-worker	0.504 (0.318)	-0.106 (0.845)	-0.076 (0.865)	0.497 (0.383)
Other artisan	-0.257 (0.449)	-0.578 (0.309)	-0.097 (0.792)	-0.340 (0.489)
Personal status of the parties				
Grantors are husband and wife	-0.074 (0.632)	-0.211 (0.182)	0.230 (0.349)	0.549 (0.105)
Grantor a female other than wife	-0.331 (0.057)	-0.413** (0.027)	-0.738*** (0.001)	-0.395 (0.171)
Grantees are husband and wife	0.106 (0.512)	0.329 (0.168)	-0.146 (0.531)	-0.215 (0.493)
Grantee a female other than wife	-0.212 (0.405)	-0.151 (0.628)	-0.324 (0.318)	0.409 (0.430)

Variable	*Column 1 Gross rent*	*Column 2 Rent to grantor*	*Column 3 Rent to lord*	*Column 4Consid'n*
Grantor and grantee are related	-0.289	-0.539	-0.383*	-2.625***
	(0.159)	(0.171)	(0.095)	(0.000)
Gift to unrelated grantee	-0.478	-0.587*	-0.159	-3.196***
	(0.116)	(0.077)	(0.636)	(0.000)
Terms of contract				
Unspecified obligation to lord	-1.757***	0.087	-0.064	1.521***
	(0.000)	(0.799)	(0.940)	(0.000)
Lease (yes/no)	0.164	0.168	-0.064	-1.521*
	(0.639)	(0.533)	(0.940)	(0.079)
Number of years of lease	0.052***	0.042***	0.048	0.032
	(0.002)	(0.001)	(0.345)	(0.497)
Lease for grantor's life (yes/no)	0.448	1.222*		-1.568
	(0.554)	(0.062)		(0.110)
Lease for grantee's life, (yes/no)	0.074	-0.698	-0.001	-0.743
	(0.902)	(0.279)	(0.999)	(0.476)
R^2	0.342	0.443	0.440	0.343
Adjusted R^2	0.284	0.344	0.265	0.25
F-statistic	5.949***	4.476***	2.508***	4.086***
	(0.000)	(0.000)	(0.000)	(0.000)
Jarque-Bera normality test	10.464***	15.671***	7.521**	15.446***
	(0.005)	(0.000)	(0.023)	(0.000)
Breusch-Godfrey heteroskedasticity F-test	1.310*	1.100	1.184	1.732***
	(0.079)	(0.310)	(0.221)	(0.002)
Number of observations	638	339	202	452

Source: Coss, *Records*.

Note: See Table 6.2. In certain columns certain explanatory variables were dropped to avoid multicollinearity.

Location factors

The spatial pattern of rents suggests that the economic centre of Coventry was at the interface between the Prior's half and the Earl's half, near the Prior's market at Cross Cheaping and the Earl's street of Broadgate. Table 6.2, column 3 shows that, relative to Spon Lane (the control), rents were significantly high in the Market area, Broadgate and Smithford Street and carried positive coefficients for Earl Street and Bayley Lane. Rents were low in the peripheral areas of West Orchard (in the Prior's half) and Cheylesmore Lane (in the Earl's half).

Analysis of considerations refines this interpretation. According to Table 6.3, column 1, very high considerations were paid in Earl Street, but not in Bayley Lane. When consideration is analysed conditional on gross rent (column 2) the positive effect in Earl Street becomes even stronger. Consideration is also high in the Market area and Smithford Street, where rents were already high to begin with. It is notable that considerations in Cheylesmore Lane were low, despite its proximity to the Earl's manor house; this confirms the view that it was the site of the Priory and not the manor house that dictated property values in Coventry.

The results suggest that relatively modest rents in Earl Street were being compensated for by high considerations. Conversely, the relatively low considerations in some peripheral areas suggest that rents in the periphery, though low, were set closer to long run economic levels than in the centre.

Combining rents and considerations into a weighted sum in Table 6.3, column 4, confirms the importance of centrality. It identifies the Market, Bayley Lane, Broadgate, Earl Street and Smithford Street as the core of the town. In the periphery Well Lane in the Prior's half and Much Park Street in the Earl's half carry high valuations. In the suburbs the area around St Nicholas, in the Prior's half, also carries a high valuation.

The value of property did not, however, decline systematically with distance from the centre. While the centre contained the most valuable properties, some suburban areas had more valuable properties than peripheral areas nearer to the centre. As already noted, St. Nicholas, a suburb in the Prior's half, had particularly high considerations. Within the

Earl's half, rents in the suburb of Spon Street (the control) were significantly higher than in the peripheral areas of West Orchard and around the Earl's manor in Cheylesmore Lane (Table 6.3, column 2). This suggests that rents declined significantly between the centre and periphery of the town but then increased again to some degree as the suburbs were reached.

On the whole, there were few significant differences between property values in the two halves of the town. According to Table 6.4, column 1, gross rents in the Prior's half were somewhat less than in the Earl's half but considerations show no significant differences (Table 6.4, column 4). As noted above, both the Market area in the Prior's half and Earl Street, Broadgate and Smithford Street in the Earl's half had significantly higher rents than in the suburbs. On the whole, the Earl had relatively high rents in the suburbs and low rents in the peripheral area, whilst the opposite applied to the Prior.

Types of property

Some types of property paid higher rents than others, although overall differences were not so great as might be expected. Table 6.2, column 5, shows that mills clearly paid the highest rents. The White Cellar (possibly an inn and wine cellar) and neighbouring properties also paid high rents (1 per cent). Properties described as tenements paid higher rents than properties described as ordinary land (the control), and messuages also paid moderately higher rents as well. In general, the presence of buildings raised rents. So far as pastoral uses properties are concerned, barns, gardens and fishponds command higher rents.

Variations in considerations are more striking than variations in rents. Table 6.3, column 2, show that, conditional on rent, messuages and buildings attracted high considerations (1 per cent each), whilst curtilages attracted low considerations. Despite high rents, mills and the White Cellar also attracted high considerations. Table 6.3, column 4, shows that overall, the most valuable properties were messuages, chief messuages, chambers and halls, and buildings in general, which all commanded substantial premia. Amongst pastoral uses, meadows attracted both high considerations (Table 6.3, column 1) and also high valuations (Table 6.3, column 5).

Occupations

The evidence suggests that occupation is not an important influence on rents. It has no significant effect on gross rent (Table 6.2, column 3). Rents to grantors are significantly high for merchants, whilst rents to lords are significantly low for clerks and chaplains, vintners, brewers and food-workers (Table 6.4, columns 2, 3). The high rents paid by merchants (Table 6.4, column 3) may reflect their desire to occupy prestigious properties, their need for large secure properties in which to store valuable goods, and their ability to afford them. The low rates set by lords for properties suited to clerical and food-related occupations may be a legacy of their desire to attract such workers to the town.

Occupation has a somewhat greater impact on considerations. When considerations are analysed conditional on gross rent it can be seen that high values were paid by wood-workers and low values by bakers and millers, leather-workers and metal-workers (Table 6.3, column 2). The low values paid by leather-workers and metal-workers may reflect the nuisances they created which led to them being relegated to marginal sites unsuitable for alternative use. The high values paid by wood-workers may reflect the highly skilled nature of the occupation and their desire to locate close to their prestigious clients. The low considerations paid by bakers and millers are more difficult to explain.

Occupation has no significant effect on overall property values except for metal workers (Table 6.3, column 4). Metal-workers occupy properties with significantly low values (10 per cent). In the light of the previous results, it seems that the most robust result is that metal workers probably occupied marginal properties with few alternative uses.

Personal characteristics

The single most important determinant of the rent, consideration and value of a property is the personal relationship between the grantor and grantee. This is reflected in several ways.

Gross rent reduces when the grantor is a woman. Examination of the original deeds suggests that this is partly explained by widows leaving property to their married children. The same result is obtained separately

for rents to grantors and rents to lords (Table 6.4, columns, 2, 3). The large size and high significance of the impact on rents to lords is interesting. One possible explanation is that lords exercised discretion in reducing rents to spinsters and widows, although why they would have wanted to reduce such rents in perpetuity is unclear.

The impact of personal characteristics is even greater where considerations are concerned. The reduction of payment when the grantor is female is both larger and more significant (Table 6.3, columns 2, 3). Two powerful additional effects come into play with respect to considerations: the relatedness of grantor and grantee, and the explicit making of a gift. Many deeds are self-described as 'gifts' with payments attached, but, as explained above, in the present context a gift refers to an arrangement where either no payment, or a purely token payment, is made. Relatedness substantially reduces consideration, both unconditionally and conditionally on the components of rent and the same applies to gifts (Table 6.3, columns 1–4). The impact of relatedness and gifts are the two single most important factors affecting the value of a consideration, and it is difficult to analyse considerations fully without taking account of them.

The role of a female grantor, the relatedness of the parties and the role of gifts are also major influences on the overall value of a property (Table 6.4, column 4).

Terms of contract

Unspecified obligations to a lord significantly reduce the value of gross rent, but they significantly increase the value of the consideration (Table 6.4). They have no significant impact on overall value (Table 6.3, column 4). Their negative impact on gross rent is consistent with the view that unspecified obligations are a substitute for the tenant's payment of monetary rent. The fact that the overall value of a property is broadly neutral with respect to unspecified obligations is also consistent with the view that the value of the unspecified obligations is on average fully offset by compensating adjustments in rents and considerations.

Leases have no significant impact on the value of gross rent (Table 6.2, column 2) but, as expected, they significantly reduce the consideration

(Table 6.3, columns 1–3). The number of years of a lease has no significant influence on the consideration paid for a property but it increases its overall value (Table 6.4).

Leasing for life has no effect on rents or considerations, save for the fact that leasing for the grantor's life increases the rent to the grantor (Table 6.4, column 2). This apparently perverse effect may perhaps be explained by the grantor's desire to live well for the remainder of their lives. This interpretation is consistent with the fact that considerations tend to be lower when leases are for grantors' lives, though not significantly so (Table 6.3).

Time variation

Rents did not vary much over the period of this study, but considerations did (Table 6.2, column 3, and Table 6.3). Gross rents were relatively stable (Table 6.4); rents to lords were significantly high in 1200–1219 at a time when rents to grantors were particularly low (5 per cent). Rents to grantors were also low in 1240–59. In general rents to grantors were highest in the control period 1260–79 and after 1300, although not significantly so (Table 6.4, columns 2, 3).

Considerations declined over the thirteenth century (Table 6.3). Taking the period 1260–79 as the control, considerations were high throughout the period 1200–1239. They were highest in the later period, 1220–1239, than in the earlier one, 1200–1219. This applied both to unconditional consideration and to consideration conditional on rent (Table 6.3, columns 1,2).

The overall value of property peaked in 1220–39 and again in 1300–1309. Although neither rent nor consideration were significantly high in 1300–1309, they were both relatively high, and when combined produce a significant result (Table 6.3, column 4). There is little indication of the impact of wars, panics and political instability on property transactions, but it is possible that such impacts are masked by averaging over 20 year periods.

6.3 Estimates of implicit interest rates and overall property values

Data on interest rates in medieval England is relatively poor compared to prices. Short-term interest rates can be estimated from the premia on foreign exchange transactions, while long-term interest rates are usually estimated by comparing land rents with purchase prices.

There are three main ways of inferring implicit interest rates from this study, and the results broadly agree. Firstly, the ratio of the rent to the purchase price may be interpreted as an implicit interest rate, as explained above. The Coventry deeds contain 42 instances where a perpetual stream of interest is sold. In Table 6.5 the ratio of the rent to the purchase price is the dependent variable and the explanatory variables are time dummies and location dummies – central and suburban, with peripheral areas as the control.

Table 6.5 Regression analysis of the ratio of rental payments to the purchase price of the rent

Explanatory variable	*Coefficients*
Constant	0.129 (0.000)
Period 1200–1219	-0.035 (0.274)
Period 1220–1239	0.000 (0.993)
Period 1240–1259	0.032 (0.138)
Period 1280–1299	-0.033** (0.036)
Period 1300–1309	-0.052** (0.011)
Central area	0.022 (0.234)
Suburbs	0.009 (0.566)
Rent	-0.002 (0.934)
R^2	0.395
Adjusted R^2	0.249
F-statistic	2.697** (0.021)

Explanatory variable	*Coefficients*
Jarque-Bera normality test	3.911 (0.141)
Breusch-Godfrey heteroskedasticity *F*-test	0.989 (0.463)
Number of observations	42

Source: Coss, *Records*.

The value of the constant is an estimate of the interest rate in the control period. The estimate is 12.9 per cent. Unlike the regressions reported in Tables 6.2– 6.4, heteroskedasticity and deviations from normality in the residuals are not an issue.

If the interest rate were purely customary, and not market-determined, it would be relatively stable over time. In fact it varies significantly over time. Although it is stable from 1200–1279, it falls by 3.3 per cent in 1280–99 and by a further 1.9 per cent in 1300–1309. These changes reflect higher prices being paid for perpetual rents.

Secondly, an interest rate can also be derived from the consideration regression in Table 6.3, column 2. The regression coefficient on gross rent implies that a 1 per cent increase in rent reduces consideration by 0.544 per cent. To convert this relationship to absolute terms it is necessary to multiply by the ratio of average consideration to average rent; this shows that a 1d. increase in rent reduces consideration by 0.544 x 12.81 = 6.97d. This corresponds to approximately 7 years' purchase, or an interest rate of 14 per cent.

A third estimate of the interest rate can be derived from the analysis of implicit property values in Tables 6.3 and 6.4, column 4. An implicit measure of overall property value can be constructed using the formula

Implicit value = Consideration + Gross rent x Number of year's purchase

Different implicit values can be estimated from data on rents and considerations by assuming different values for year's purchase. The best fit regression (as measured by R^2) should correspond to the true number of years' purchase. The data show that the best-fit regression corresponds to five years' purchase. However, four and six years' purchase also provide good fits. Six years' purchase corresponds to an interest rate of 16.7 per cent. Given that the two previous estimates fall within the range 13–14 per



cent, judgement suggests that an overall estimate of 15 per cent is appropriate, plus or minus two per cent.

6.4 Conclusions

The results reported in this chapter have implications for the history of Coventry, for the statistical interpretation of deeds, and for the analysis of urban rents in general. They confirm Goddard's view that rents are more stable over time than considerations, and the views of Coss and Goddard that Dormer Harris overstated the differences between the Prior's half and the Earl's half. The most valuable properties in Coventry were found not only in the Prior's half around the market but also in the streets of the Earl's half bordering on the Prior's half. This is consistent with the view that residents of medieval Coventry sought properties close to the market but under the jurisdiction of the Earl.

The study also confirms Goddard's view that deeds provide a valuable insight into urban property markets and that statistical analysis can be applied to such documentary sources. It also refines his analysis. It shows that considerations need to be interpreted conditional on rents and that property values need to be estimated using a weighted average of rent and consideration, using a weight equivalent to 6.5 years' purchase (equivalent to an interest rate of approximately 15 per cent). It demonstrates that family relationships exert an important influence on rents and considerations, and that gifts must also be taken into account; otherwise property values may be seriously understated.

The study confirms the importance of the centrality premium found using similar methods in a recent study of Gloucester. It suggests, however, the rents and considerations do not decline uniformly with distance from the centre, because peripheral areas bordering the centre may have lower rents than suburban areas further out.

The types of properties described in deeds are not always good predictors of value. Mills and messuages typically attract premia, whilst curtilages have relatively low values. Meadows are more valuable than general agricultural land in areas bordering the town; this may be explained by the demand for fresh dairy products in the town. The occupation of the buyer is not a major influence on value, except, it seems, for metal-workers who occupy relatively low-value properties. These findings are consistent with

the view that underlying economic forces operate in a similar way in different towns, but that their specific local implications depend on contextual factors that vary between towns. Further studies of this kind on other towns are required to clarify outstanding issues.

Notes

1 For example N. Baker and R. Holt, *Urban Growth and the Medieval Church: Gloucester and Worcester* (Aldershot: Ashgate, 2004); A. F. Butcher, "Rent, Population and Economic Change in Late-Medieval Newcastle," *Northern History*, 14 (1978): 67–77; P. R. Coss, *The Early Records of Medieval Coventry* (London: British Academy and Oxford University Press, 1986); Richard Goddard, *Lordship and Medieval Urbanization, 1043–1355* (Woodbridge: Boydell and Brewer, 2004); D. Keene, *Survey of Medieval Winchester*, 2 part i, (Oxford: Clarendon Press, 1985); J. Langton, "Late Medieval Gloucester: Some Data from a Rental of 1455," *Transactions of the Institute of British Geographers*, New series, 2 (1977): 259–277; S. Rees Jones, *York: The Making of a City 1068–1350* (Oxford: Oxford University Press, 2013).

2 C. Pythian-Adams, *Desolation of a City: Coventry and the Urban Crisis of the Late Middle Ages* (Cambridge: Cambridge University Press, 1979).

3 Coss, *Records*; T. John, "The Coventry Hundred Rolls." In *The Early Records of Medieval Coventry* edited by P. R. Coss (London: Published for the British Academy by Oxford University Press, 1986): 365–394; P. Coss and J. C. Lancaster Lewis, eds., *Coventry Priory Register* (Stratford-on-Avon: The Dugdale Society in association with the Shakespeare Birthplace Trust, 2013); G. Templeton, ed., *The Records of the Guild of the Holy Trinity, St. Mary, St. John the Baptist and St. Katherine of Coventry*, Volume II (London: The Dugdale Society in association with Oxford University Press, 1944); M. H. M. Hutton, *Coventry and its People in the 1520s* (Stratford-on-Avon: The Dugdale Society in association with the Shakespeare Birthplace Trust,1999).

4 M. Dormer Harris, ed., *The Register of the Guild of the Holy Trinity, St. Mary, St. John the Baptist and St. Katherine of Coventry* (London: The Dugdale Society in association with Oxford University Press,1935); A. Beardwood, ed., *The Statute Merchant Roll of Coventry, 1392–1416* (London: The Dugdale Society in association with Oxford University Press, 1939).

5 Goddard, *Coventry*; Coss, *Records*.

6 For example Goddard, *Coventry*.

7 For example A. Bell, C. Brooks and T. Moore, "Interest in Medieval Accounts: Examples from England, 1272–1340," *History*, 94 (316): 411–433.

8 J. C. Lancaster and M. Tomlinson (1969), "Introduction," in W. B. Stephens (ed.), *The Victoria History of the County of Warwick*, Volume VIII: The City of Coventry and Borough of Warwick (London: The Institute of Historical Research in association with Oxford University Press, 1969), 1–23, 1.

9 J. C. Lancaster, *Godiva of Coventry* (Coventry: Coventry Corporation, 1967), 10; A. Williams and G. H. Martin eds., *Domesday Book*, Volume II (London: Alecto Historical Editions, 1992), 655.

10 Coss, *Records*, pp. xv–xxi.

11 Coss, *Records*, 18, 22, documents 11, 15; Coss, personal communication, 2015; Goddard, *Coventry*, 66–70.

12 D. McGrory, *A History of Coventry* (Chichester, 2003), 33.
13 Coss, *Records*, xxii.
14 M. Dormer Harris, *Life in an Old English Town* (London: Lon and Company, 1898), 326–327.
15 Lancaster and Tomlinson, “Introduction,” 2; Davis, *Early History*; Goddard, *Coventry*; Coss, *Records*.
16 Goddard, *Coventry*, 10.
17 Coss, *Records*.
18 Where the properties are broadly similar, the consideration on each property has been imputed using equal shares; but if there are significant differences between the properties consideration has been imputed in proportion to the rents instead. In other cases imputation was too conjectural to be applied. The principle of imputation for each relevant property is recorded in our database.
19 Coss, *Records*.
20 M. A. Boyle and K. A. Kiel, “A survey of house price hedonic studies of the impact of environmental externalities,” *Journal of Real Estate Literature*, 9 (2) (2009): 117–144.
21 M. Fujita, *Urban Economic Theory: Land Use and City Size* (Cambridge: Cambridge University Press, 1989).
22 Coss, *Records*.
23 Coss, *Records*, xxxv–xxxvii.

6.5 Further reading

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Beardwood, Alice, (ed.), *The Statute Merchant Roll of Coventry, 1392–1416*. London: The Dugdale Society in association with Oxford University Press, 1939.

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7 Counting cows and coins

Monitoring the economy through port records and trade statistics in the early modern period

Philipp R. Rössner

There is a handful of handwritten lines, in a quite elegant script, of information in what was called a 'port book' or customs account in contemporary language. In this document, the British customs collector of the Scottish port of Aberdeen on the west coast of Scotland would, in Ladyday quarter (first quarter of the year) 1756, tell us that a ship called 'Diligence', registered as British and in the said port of Aberdeen, sailing under the command of a certain George Duncan, had just been unloaded of a cargo (amongst others) of thirty mats of undressed flax, weighing a total of 30 cwt or 1.5 metric tons that belonged to a certain Alexander Milne. The flax would pay none of almost 50 different duties applicable on imports (and some duties on exports) at the time. This was rather unusual, given that the British customs system established at the Restoration (1660) and considerably augmented subsequently, probably represented the most complex customs system of its age, and the British fiscal state certainly was one of the highest-duty states of its age. Even in contemporary France – the archetypically 'absolute' monarchical state under the Sun King Louis XIV – taxes were much lower, when measured on a per capita basis, and certainly more incidental than in England (one of the causes for the French Revolution, 1789).[1]

The document would go on, near endlessly for the bigger ports such as Greenock and Port Glasgow, replicating over and over again similar lines of text and similar sets of entries for all types of commodities, including quite mundane ones such as the mentioned flax, but also hemp and potash,

extending to more exotic goods such as elephants' teeth (ivory), tobacco and – as in one entry documented for Scotland in the 1740s – *corpses*. All traffic, unless smuggled – and that could be up to 60 percent of the total – going in and out of Scotland would be recorded in these folios, nicely bounded together, only to be sent to the Exchequer in London for auditing each time the quarter had ended.

These sources have tempted quantitative historians and put to the test historians of capitalism's eagerness to use quantitative evidence. It is because the Scottish customs records of the early modern period are so well-preserved, so neatly composed and tidy, even ordered in their presentation that some have believed in them literally, i.e. taken all information given in them at face value, as though they were 'true' documentations of all trade coming in and going out of Britain in the seventeenth and eighteenth centuries. Most of the comparable English records have been lost, and none of the other European states kept records that would match the English (and after 1707) British records in terms of coverage and detail. These accounts are full of dense numerical as well as verbal information. They teem with millions of names, cargo entries and numbers. Entire business histories have been written on the basis of these records – such as the story of the infamous Glaswegian *Tobacco Lords* of the eighteenth century that made Glasgow rich and flourish, creating some of the most marvellous bourgeois townhouses that still dominate the city scene today.[2] Economic historians of an older fashion and age have tried to reconstruct trade flows and national income levels based on these and comparable types of document, even though we know that merchants used to cheat when declaring their incoming cargoes in the ports (as these had to be taxed): the records that they have left can be fairly speculative in consequence, omitting more than they really convey. Not all of these exercises can be considered ultimately successful. Wherever possible, port records should be checked against private documents, such as merchant account books, and in many cases such comparisons show remarkable deviance. Merchants were not alien to bending the truth, particularly when it came to paying taxes or 'sharing' valuable business information (custom house records were potentially public; they could be accessed by any merchants upon request).[3]

General Entries Inwards in Ladyday Quar.r 1756

1 January 7th In the Dilligence of Aberdeen, B.B. George Duncan Ma.r from Campvere — Alex.r Milne
Thirty matts cont.g thirty hundred weight undrest Flax .... Free

2 D.o die In the said Ship — Fraser and Donald
One cask containing ten hundred weight old Iron
One cask containing thirty six pounds onion seeds
Twenty matts cont.g twenty hundred w.t undrest Flax — Free

3 D.o 9th In the said Ship — Alex.r Leslie
Two small grose of Sill Boxes

4 D.o die In the Prince George of Fraserb.h B.B. Alex.r Craik Ma.r from Opporto — Jn.o Elphinston
A parcel of cork containing ten hundred w.t

5 D.o die In the Dilligence p.dict — Dingwall and Fordyce
Six matts containing six hundred w.t undrest Flax — Free

6 D.o 22 In the Jean of Gardenstown, B.B. Peter Noel Ma.r from Rotterdam — The Ma.r for James Robertson
Two casks containing half a Barrell of Pearl ashes
Seven casks containing seven hundred weight two quarters Cloverseeds
Two casks containing ten hundred weight old Iron
One small Bag containing half a Barrell of wallnutts
Thirty six hogsheads Flax seed
One hund.d and forty matts q.t one hund.d and forty hund.d w.t undrest Flax } Free
One cask containing one hundred weight madder

7 D.o 22 From the Warehouse, Imported in the Dilligence p.dict — James Leper
One cask q.t half a Bushel of Buckwheat not French not exce.g the price of 32 shill.s per Quarter
Two casks cont.g one hundred w.t two quarters Cloverseeds
One small cask cont.g one quarter of an hundred w.t Butter
One cask cont.g one hundred w.t of Linseed — Free

8 February 5th In the Mary of Burntisland, B.B. Alex.r Gedd Ma.r from Campvere — Alex.r Moir & Co.
Eight casks of old broken Iron q.t three tons five hundred w.t
One cask cont.g thirty three thousand Goose Quills
A parcel of Onions cont.g twenty five Barrels
Six hogsheads Linseed, Ninety five matts q.t ninety five hund.d w.t undrest Flax — Free

9 D.o die In the Vernon of Banff, B.B. William Leslie Master from Gottenburgh — William Leslie
Cer. from 260 anno 1755
Three tons eight hundred weight one quarter and fourteen pounds of Iron

10 D.o die In the Elizabeth of Fraserburgh, B.B. Alex.r Club Ma.r from Christiansands — Alex.r Harlaw
Cer. from N.o 277 anno 1755
Seven tons one hundred w.t and fourteen pounds of Iron

11 D.o die In the Bettie Peggie of Fraserb.h B.B. Alex.r Stewart Ma.r from Dantzick — W.m Morison for Alex.r Harlaw
Cer. from N.o 292 anno 1755
One hundred w.t rough hemp
Two hundred w.t and twenty one pounds of Cordage
Seven hundred and sixty six pounds of Pearl ashes

12 D.o 9th In the Mary p.dict — Alex.r Moir & Co.
Twenty five Barrels of Onions

13 D.o die In the said Ship — William Mitchell for George Wilson
Thirty eight matts cont.g thirty eight hundred w.t undrest Flax — Free

14 D.o die In the said Ship — George Gordon
Forty five matts cont.g forty five hundred w.t undrest Flax — Free

15 D.o 9th In the Jean of Gardenstown, B.B. p.dict — James Robertson
Cer. from N.o 6
Two hundred w.t Cloverseeds
Four hundred w.t Old Iron

Figure 7.1 Scottish customs account or 'port book' (1756). Courtesy of National Archives of Scotland, E504 series.

This chapter will proceed in three parts. A first section briefly discusses the emergence and types of quantitative sources documenting commercial and trade flows in late medieval and early modern Europe. A second section discusses ways of retrieving and using quantitative sources by means of a case study of an eighteenth-century customs record or 'port book' from Scotland in the United Kingdom – a very common type of source in early modern overseas trade. A brief conclusion brings the chapter to a close. This should give us a short glimpse on the possibilities as well as pitfalls working with early modern serial-quantitative documents.

7.1 Quantitative sources, state formation and the making of a governmental mind: The case of trade records

Since the mid-thirteenth century Europeans became more accurate and develop their quantitative mind. Or so it seems. According to Crosby[4], after the 1250s Europeans began to develop more sophisticated ways of calculating.[5] They increasingly refrained from the old practice of rounding and using the five fingers of their hands. They developed a more accurate and more modern attitude towards weights and measures and keeping accounts. By the end of the fifteenth century there was also a process in motion known as the rise of the modern state. Both developments – quantification and governmentality – were related by multiple processes of co-evolution and co-production. And even though many ways led to the modern states, and even though other areas of the world knew similar forms of state craft and statehood, including the basic tools of the state (taxes, powers of coercion), the focus will here be on the European model, which since the sixteenth century, and increasingly during the nineteenth century, became transposed to other world regions by means of imperial expansion, for bad and for good. This does not mean, however, that Europe 'invented' the modern state; or that the European model of the fiscal-military state was the only viable or best-practice historical model.

The development of a quantitative mind and modern forms of governmentality were intrinsically related to the formation of states and a rise in warfare. Kings needed taxes and one of the safest way of generating a steady inflow of money for the state was to tax trade overseas, which in the British case was easier to monitor and control (and protect) than elsewhere, as England and Scotland were located on an island. The history of the state and serial documents useful to the quantitative historian thus starts with the history of taxation.[6] From the later Middle Ages England as well as other European states began to keep records detailing information on goods shipped in or out of the country. These records arose from, and were often based on, the older type of record we have encountered above as customs accounts or 'port books'; but they now combined with the new mercantilist and Cameralist 'governmentality' that placed an increasing

emphasis on economic planning and development. For England and Scotland these are known under various labels, and various types existed; the most common one was the books detailing incoming and outgoing cargoes and ships on a day-to-day basis since the early modern period usually known as 'port books' or 'customs (quarterly) accounts'. A standard entry of an import (export) declaration in such seventeenth- and eighteenth-century port books – a type of record that was similar to medieval customs accounts – contained information as to: the ship's name; its place of build/registration (optional); port(s) or country (countries) or region(s) of last calling (destination); master's name; merchant's name; name of supercargo or forwarding agent (if applicable); and commodities carried. The latter also comprised a specification of the goods' material identity according to the two Book(s) of Rates[7]; in standard commercial measures; it provided information relating to the amounts shipped, as well as the customs duties levied.

Many other European nations and city states kept similar types of records, be that in Sweden[8], Danzig (where these books go under the name of *Pfahlgeldbücher*, i.e. literarily 'pole money book'), or the free imperial city of Hamburg. The latter kept records of imports and exports, as well as the duty levied on them for convoy and protection; thus these books are known in the modern literature as *Admiralitäts- und Convoygeldeinnahmebücher* (admiralty toll and convoy money books).[9] These books, compiled from 1733 and running well into the nineteenth century, contained information as to the date of declaration; name of ship's captain; port/country of origin; as well as some information on the unit and number of goods carried, and a specification of the commodities assessed and their declared/assessed value in local Hamburg money of account or bank money, called *Mark Banko*. What the records don't usually give us though – the early modern English and post-1707 Scottish port records were unusually detailed and comprehensive – is the amount of goods imported that went untaxed and unassessed; information on exports is also frequently missing, as these were not regularly taxed. Even for assessed goods the information can be ambiguous as some of the data we have, for instance in the case of eighteenth-century Hamburg – are based on flat-rate assessment without specific detail of the actual quantity of goods shipped. Therefore

these records offer only a very biased snapshot on Hamburg's import trade, particularly on colonial goods such as coffee, sugar and tobacco. Furthermore, recent research which has led to a first publication of the statistical information found in these books by commodities and countries of origin, has failed to explain the pricing schedule of the declared values required for levying the tolls. It would for instance be desirable to know, whether declared values in Mark Banko were expressed in c.i.f. (cost, insurance, freight) or f.o.b. (free on board) prices, i.e. notations of value that differed with regards to whether the goods' value was taken at the location of its point of origin, or whether it already included freight rates, seamen's wages, merchant profits and the like.[10] Then one could make some informed statement on to the commercial contribution of such imports to Hamburg's economy. Nevertheless, quantitative economic historians have, in recent years, used these trade data, in combination with price movements, to make complicated calculations of demand elasticities and the possible nature of an early modern German consumer revolution.[11] The data are not always easy to interpret, as customs and tolls were often assessed ad valorem, i.e. with a tax assessed on a declared value of the cargo shipped. Very often the underlying physical commodity declarations have not survived, as merchants were simply asked to state the overall or total value of their cargo. Take the commerce of Hamburg as an example again: further down the river Elbe the Dukes of Oldenburg collected the Elsfleth toll, with accounts that have survived from the seventeenth and eighteenth century, and which historians have used to calculate commercial flows into and out of the city of Hamburg, especially when the Hamburg figures are lacking or incomplete. That does not mean however that all traffic passing through Elsfleth necessarily reached Hamburg and vice versa, problems which the historian of commerce needs to take into account.[12] In the commercial city of Bremen further west, the city administration collected, from the late 1730s, the so-called *Schlachteangabebücher*. These *Schlachte* toll accounts, covering a selective range of imports in select years in the eighteenth century, originated from a tax on particular goods in ships about to enter the *Schlachte* pier, located in Bremen at a side-arm of the River Weser, where larger sea-going ships had to call in and trans-ship their cargoes on to lighter vessels (*Leichterschiffe*)

suitable for traffic inwards on the shallow Lower Weser.[13] And finally, since the Middle Ages the Danish kings collected a toll at Elsinore on all ships coming in to and out of the Baltic through the Øresund (there were other possibilities of entering/leaving the Baltic from the North Sea, but this was by far the most convenient route). From the fourteenth to the nineteenth century detailed registers of all cargoes declared, ships' and captain's names, origin and destination of the ship have survived, known under the name of Sound Toll Registers. They have been used, and recently digitised, by whole teams of historians studying northern European trade flows and economic development, through the lens of long-distance trade in bulk goods such as salt, fish, timber, or colonial goods.

These trade flows derived from records of the above-mentioned type allow us to derive tentative conclusions and wider stories about trade and economic development, competitive and comparative advantage, stage of development, seasonality and rhythms of trade, patterns of shipping and so on. Moreover they often provide detailed information on individual people handling, financing and organising trade and provide thus an invaluable source to the historian of early modern capitalism, be that on a more 'economic' or a more 'social' side: network studies can benefit from these sources in the same way as die hard economists trying to recalculate the trade component of a country's historical GDP. However, these records are fraught with difficulties and biases similar to those mentioned above. They do not state all traffic that came from or went into the Baltic, as there were other routes which could be used by merchants as an alternative. Much traffic, particularly if it wasn't in bulk goods, still went overland between Hamburg and Lübeck through the Duchy of Lauenburg, thus avoiding the long detour through as well as the toll money levied in the Sound. And there are apparent mismatches between the Sound Toll Registers and the customs accounts in the ports from which the ships had originated. Some of the goods declared in the late seventeenth century in the English port of Hull for a location somewhere in the Baltic east of the Sound never made it through the Sound (that means they were never declared there). And many cargoes declared in the Sound Toll Registers never made it to their final destination as declared at the toll point in Elsinore. With all quantitative records from the period therefore we need to be very careful.

The first real and, in a sense, modern economic statistics were compiled much later, i.e. after the mid-seventeenth century. Only from the 1690s onwards English Mercantilists became increasingly aware of how to monitor the economy, particularly the foreign trades. In 1694, the English parliament ordered a new office to be created. This was the so-called *Inspector General of Imports and Exports*.[14] Under this office's auspices for the first time comprehensive data on all commodities shipped into and exported from England were collected, on the basis of the customs accounts, regardless whether taxed or duty-free. A similar office was established for Ireland the same year, as well as, later on for the 13 colonies. From 1755 onwards, the same set of statistics were collected for Scotland, even though Scotland and England had ceased to be independent countries by 1707. The so-called (inspector general's) Ledgers of Imports and Exports gave, in the form of tables, detailed breakdown of (1) imports, exports, re-exports *in time* (re-exported within three years after import, full legal drawback) and re-exports *out of time* (no or only a fraction of theoretically possible drawback), and (2) by countries Scotland, England and Ireland traded with. They were the first modern type of this record, conceptualised as a practical tool serving certain – even if still rudimentarily developed – maxims of fiscal and economic policy captured under the 'mercantilism' and early modern 'jealousy of trade'[15] label. But most developed nations have continued to use similar policies to the present day, and the type and philosophy of economic data collection has not changed so much over the ages as has the level of scrutiny and accuracy. Modern statistical bureaus collect a vastly larger range of statistical-economic information, but the conceptions are similar: of the state, taxation, and the state's denizen, the border and relations with other countries. These 1696/1755 British trade statistics broke down the analysis of commodity trade by countries of origin (imports)/destination (exports). Specification was made of commodities carried in British ships or foreign ships (as this meant that different duties may apply). Cargoes imported and exported were given a valuation, initially at current prices, which meant that the current value, expressed in Pounds sterling, of the nation's total trade for a year could at least be reliably estimated. Naturally these ledgers have aroused more scholarly interest than any other source, as they conform to

the range of data sought after in modern economic theory, and thus apparently allow the application of the modern concept of the trade balance to historical analysis.[16] One must be careful however, as the data given therein contain evidence of informed speculation, sometimes more fact than fiction. Prices were sometimes collected casually from knowledgeable merchants, but no one would have the sort of reliable evidence on current prices that modern statistical bureaus collect and publish in our day. Today evidence on changes in the consumer price index (CPI) are based on built on large panel socio-economic surveys and sample analysis of individual household consumption patterns, based on which a so-called representative average basket of consumables is calculated. In the seventeenth and eighteenth century circumstances were different, and any historian working with these seemingly accurate and precise documents should apply a healthy dose of caution and care.

What we know as 'mercantilism' – a mixture of economic ideas, discourses and applied policy – also led to a proactive way and attitude that laid increasing focus not on juridical documentation – tax auditing – but ways of 'evidence based' policy making, even central planning – as far as such central planning could ever go in the early modern period. As people refined the customs and tax accounts as well as demographic statistics which we've encountered above, they also discovered that they could be turned to tools of 'governmentality', steering economy and regional economic health, controlling their subjects by means of 'body politics', but also using the information and means at hand of steering the economy in a way that led to economic growth and development. The modest spurt in output, living standards and productivity, which quantitative historians have asserted for many continental regions during the period after the Thirty Years War and roughly into the 1720s and 1730s, coincided with a spurt in economic regulation, mercantilist policy and management. New research has confirmed the crucial role played by the proactive mercantilist British fiscal-military state in making the first industrial revolution.[17] Without doubt this interventionist state which was emerging in early modern Europe built on the statistical efforts made in, and the results gained from, producing increasingly sophisticated aggregate quantitative records during the mercantilist and Cameralist age.[18]

And yet, we must also be true about and sensitive to the political circumstances of the day when interpreting and using the quantitative sources of the day and age. At the time contemporaries did not always differentiate between what we would call 'statistics' on the one hand and 'fiction' on the other hand. After the Restoration (1660), but certainly after the Glorious Revolution parliament, the House of Commons developed something like an economic mind and a growing awareness of how the state could and should intervene in what only at the same time became known as 'economy', i.e. something different and separate from 'politics' or 'the state'. Increasingly parliament would call for tables and statistical reports, often to prove a certain point, sometimes for party-political purposes, as the eighteenth-century political process still was intransparent, obscure and at times profoundly corrupt. Statistics became used as a political-discursive tool, and as much care would be given to accuracy in some cases – for instance how much wine or tobacco had been imported into Scottish ports in the 1720s and 1730s – as other cases were subject to a more fictional approach, when statistics were simply 'made up' in order to drive home a political issue.[19] In 1688 for instance English statistician Gregory King provided his estimate of English 'national income', tables giving detailed estimates for different social classes contribution to an increase and decrease in national English wealth. Economic historians have used them enthusiastically sometimes as a basis for calculating England's gross domestic product and national income in 1688. At the same time we also know that King believed in the possibility of quantifying England's rabbit population, which he did using basic inferential statistics.

We could reliably say that there was a large gap between what *we* today understand as reliable statistics and what seventeenth- and eighteenth century contemporaries would capture under that label. Theirs was a very different world; a quantitative-counting mind and mentality that were only just evolving, co-produced by the ongoing Newtonian revolutions in science and the onset of the European (economic) Enlightenment.[20]

7.2 Interpreting and using quantitative sources: Pitfalls and temptations

The English and Scottish trade statistics from the 1690s and subsequent decades – which I would use as an example – have proved immensely tempting to modern historians.[21] But contemporary figures are not always what we think they are; a lot of information was left out of these records, for reasons of sloppiness, smuggling as well as changing definitions of what was taxable and accountable. As we have seen above, during the first half of the eighteenth century more than half of tobacco imports into Scottish ports went undeclared and untaxed, i.e. illegal. Scotland had, by the time, turned into Europe's second largest importer and re-exporter of colonial American tobacco. So many of the figures we have on early modern consumption of exotic non-essentials (sugar, coffee, tobacco, tea etc.)[22] are based on quantitative sources likely to grotesquely under-state the factual level of trade. But due to the nature of business, there is not much reliable evidence on smuggling that would allow quantifying the 'smuggling bias' reliably. The historian does not have so much of a choice here. The only and in a sense radical alternative is, of course, to discard these sources entirely, stating that they are not worth the paper they are written on and delve into obscure exercises of assuming that history functioned entirely without structures, rules, regularity and without any statistical patterns detectable from those fragmentary written sources that did survive. Using, extracting and aggregating data drawn from these accounts can be a painful and slow process. It is not always or ultimately rewarding; it can only be realised in a comprehensive way by using electronic data processing techniques with a commensurate degree of caution (the 'pinch-of-salt-approach'). Although the historian is tempted to use these records to calculate time series of economic activity in the way the modern economic mind is inclined to, these records usually aren't what they appear to be.

Let us elucidate this simple fact by looking in more detail at a type of source we've encountered above: Customs accounts or port books. These were one of the most common types of quantitative trade record in medieval and early modern Europe, as we have seen above. Let us first take

a look at some of the technical details primarily relating to eighteenth-century taxation procedures in British ports.[23] Whenever a ship was ready to leave the port with goods to export, the exporting merchant, usually the proprietor of the cargoes, made his[24] way to the outport, say Aberdeen, or Greenock or Port Glasgow in Western Scotland. He entered the custom house and declared his interest to load the cargo onto his ship. The administrative head officer of the custom house, the customs collector, then asked the merchant to provide a written statement of the exact nature and amounts of commodities he intended to ship out. This statement was made on a form the merchant had to sign upon oath. He then had to pay the applicable duties. He was given a form that stated that he had paid everything according to schedule. If that was the case he was now entitled to transfer the goods from the pier on to the ship. The ship's captain had to sign similar documents, to make sure that one got a second opinion. Then the customs collector ordered one of his subordinate officials to join the merchant on the way aboard the ship. Both now entered the vessel, and the port official, usually called *surveyor*, inspected the cargo neatly and checked whether the merchant had made a truthful declaration. A second search was ordered after the ship's captain had made his declaration. Now, at the very latest, was the point where the merchant would either wish to have stated the truth or, alternatively, he found a chance to put a few coins into the surveyor's coat pocket, so that the latter would keep one or two eyes closed on the right occasion. If the merchant was lucky he dealt with one of those officers that Treasury correspondence in the 1730s classified as 'habitually drunk'. Otherwise the surveyor would report any misstatements to the collector, who would then ask the merchant to come back into the customhouse and pay the difference, or else receive back any amount of customs duties he had overpaid. If the merchant had made a bad mistake he now became suspected of smuggling. His case would then be referred to higher authorities and he would be in trouble. But that only happened if the merchant was stupid or sloppy: those cases of detected smuggling which can be traced in the letter books and other out port records capture only the tip of an iceberg of eighteenth-century smuggling business. Most of eighteenth-century smuggling followed an efficient rationale at quite a large scale – and in the end remained mostly undetected. Thus, before any ship

left the country, there were in theory at least two detailed checks on the cargo declarations. Furthermore, the ship was closely watched by customs officials as long as it sailed through domestic waters. The customs officers sometimes followed on horseback and made sure the ship really left the domestic realm. This was because especially in the re-export trades of tobacco and spirits there was always a chance of the merchant declaring his cargoes for re-export, drawing back import duties and re-landing the commodities somewhere in England or Scotland, thus smuggling them back into the country free of duty. There are cases where customs officers actually stayed on the ships until these had reached foreign ports in order to make sure the cargoes were really re-exported. In 1729 for example, two lesser customs officers accompanied a ship on its voyage from Aberdeen to Bergen in Norway. They returned shortly thereafter to Aberdeen, having witnessed the lawful discharge of the cargo in Norway.

Now, these seemingly tedious practices could be evaded at any stage of the process of declaring the cargo. As we have seen above, the 'port books' were accounts of all commodities exported or imported in the particular port. A standard entry of an import or export declaration contained information as to the ship's name, its place of build or registration (optional); the port or country of last calling or destination; the master's name; the merchant's name; the name of the supercargo or forwarding agent; and the commodities carried. The latter were given in precise terms, i.e. discrete figures for weights and measures that were standardised and classified or assessed according to the official nomenclature, the so-called Book of Rates.[25] Principally this allowed numerous options of statistical manipulation. First of all, port books or 'customs accounts', were revenue accounts, not accounts of imports and exports. They were supplemented by a detailed and comprehensive list of items assessed on import and export, including those cargoes that were imported (or exported) duty free. Goods that were shipped in but not taxed in the quarter or year of accounting would not be featured as 'imports' (or exports, if taken out of the warehouse) under this quarter or year. Furthermore, customs officials would have found the verification of a ship's true port(s) of origin or destination much more difficult than all other components of a merchant's declaration inwards or outwards, such as measuring or weighing the cargoes etc. Here,

however, a distinction needs to be made between trade that took place between British ports (including the colonial ports), and trade with locations outside the British dominions. Imports from and exports to places within the British Empire could be cross-checked against the original certificates (bills) of loading issued by the port of origin, which, as an identical administration was concerned, represented a fairly straightforward task for customs officials. Moreover, a special regulation applied to traffic in commodities ‘enumerated’ in the Navigation Acts. If a ship was bound for a British plantation in Africa, America or Asia, intending to pick up a cargo of tobacco, sugar, rum etc., the merchants involved had to provide bonded securities over £1,000 (if the ship’s burden did not exceed 100 tons) and £2,000 Sterling respectively (if the ship’s burden exceeded 100 tons), that were cancelled only if the commodities were shipped orderly, i.e. conforming to the English Navigation Acts. Much more difficult and thus critical for the present analysis, was the verification of origin (destination) for cargoes that either came from or went to a foreign (i.e. neither British nor British colonial) port.

Regarding imports from outside the British dominions, customs officials would normally try to obtain the original bills of lading. Regarding exports to non-British ports unless confirmation could somehow be obtained by customs officials, merchants’ fantasy would be set no boundaries in their declarations of outbound cargoes. In this instance, the British Customs administration could not care less about duty free exports but were, if at all, most concerned about re-exports. As most re-exports were normally entitled to drawback (of the import duties), which made these products notoriously prone to re-landing within Britain (supplying the domestic market illegally at duty-free prices), any ship that carried high-value goods which had been declared as re-exports, was, from the point of view of customs officials, a priori suspect of intended re-landing within British realms. For the Customs therefore, it would have been desirable to check whether such ships really went to a foreign port. In theory, British customs officials did have this option, which they sometimes even resorted to in practice (see above).

One very obvious method of checking the inherent source bias would be cross-checks with materials similar to the Scottish customs accounts on the other end of the trading link. There is for example a remarkable discrepancy between amounts and value of commodities declared as exports to Hamburg

and Bremen in the Scottish customs accounts on the one and the corresponding records on the German side, i.e. the Hamburg *Convoygeldeinnahmebücher* and Bremen *Schlachteangabebücher* (1747, 1754, 1755), which we have encountered above.[26] Åström has done the same with the seventeenth-century English and Swedish customs accounts; however, this method is a very tedious and frequently unrewarding exercise as too much information was lost on the Atlantic or the North Sea – information losses not necessarily related to outright smuggling, but also to the re-routing of ships, different customs classification schedules, different languages, cultures and algorithms of taxation on either point of traffic (export at place A, import at place B and so on). And if we compare amounts of goods as declared by particular merchants in the said port with the private business records of the said merchants – where those records have survived – we often find notable and sometimes gross mismatches. Were merchants more honest about things in their private journals, account books and letters, than they were when declaring a cargo at the port…?

Each datum, each quantitative evidence given in a written source has a history, often an administrative one. There are many reasons and constantly changing ones why and how something is inserted into record or not, which means that necessarily the quantitative historian is dealing with moving targets, especially when dealing with data points over long stretches of time, or time series analysis over many consecutive years. The difficulty becomes compounded if all the historian has is data from single years or very dispersed records and data points – how to connect them into a meaningful historical narrative? If we only have a selection of data points for trade levels – do we know whether all of them relate to the same stage in the conjuncture, i.e. is this a boom or a slump year, a depression or based upon an upward trend? Did the people who collected the data change their strategies of monitoring some time along the way? Did they change their definition of what a taxable commodity was? Did they alter requirements of proof and asserting the evidence? And so on.

One of the baseline heuristic and epistemic problems the quantitative historian working with official records is facing is tax evasion and smuggling – or any sort of illicit activity that was meant to be recorded (and taxed) but for some reason or another wasn't in reality. What we may call

‘smuggling’ might take several forms and shapes. It could mean no declaration at all or a fraudulent declaration of goods, either of a wrong category. Smuggling biases in the available sources could also be the consequence of an incorrect amount shipped, or a wrong country (origin/destination) declaration given. In British overseas trades such manipulations were particularly frequent when it came to French goods, as these were often prohibited or taxed at prohibitive levels. Figures for tobacco, wine and other high-tax imports ought to be seen with more caution than straight imports of flax or hemp which were often freed from duty. Whenever imports of tobacco were declared in seventeenth- and eighteenth century British trade, the total amount of imported *lbs* (pounds weight) was usually estimated, based on a few sample hogsheads taken from the ship’s cargo. The importing merchants tried to manipulate those processes in their favour, by either enlarging the barrels or filling them up lightly, depending upon whether tobacco was imported or re-exported. In the case of imports, therefore, a prudent merchant would aspire to place as many light hogsheads as possible into the collector’s sample for weighing, and to unload as many ‘over-packed’ hogsheads as possible. Bribery was not infrequent. But other commodities were affected, too. Linen import figures were susceptible to errors, as a variety of differing grades and labels of cloth had to be discerned and protective import tariffs applied to certain types of cloth, such as French *Cambrics*, i.e. a type of cloth originally from the French town of Cambrai. An extreme case was provided by chemicals (‘drugs’), with hundreds of different specimens listed in the Book of Rates. A similar story unfolds with timber. Seventeenth- and eighteenth-century British *Books of Rates* allowed for a higher than average degree of differentiation, which also conferred a degree of expertise upon the examining customs officials which might not always correspond to their level of training.

7.3 Conclusion

In this way, it is obvious that 'yes we can' use such records to ask and try to answer questions which historians of capitalism and quantitative economic historians have asked. But for every quantitative source and document we use we need to establish its (administrative) history first. Who produced the document and why was it produced? What was the document's original purpose? This purpose could, as we have seen, be very different from ours: what seventeenth-century contemporaries conceived as mere accounts of taxed imports and exports (port books or customs accounts), have been used by modern historians to reconstruct trade flows, sometimes complete yearly samples of imports and exports. Only if we are aware of possible differences and pitfalls, of the practical and praxeological history of a document, only if we can assert its administrative history – which may be changing over time – will we be able to retrieve meaningful information and convert the data 'mined' from these sources into a meaningful historian's story. Only then we will be able to make meaningful statements as to the likely source bias and possible errors embedded within our data. Otherwise we are unlikely to misunderstand the documents and underlying practices that led to their being produced and thus, ultimately, get the figures wrong. This applies, *grosso modo*, to all types of quantitative documents discussed here.

Notes

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3 Philipp Robinson Rössner, *Scottish Trade in the Wake of Union 1700–1760. The Rise of a Warehouse Economy* (Stuttgart: Franz Steiner, 2008); id., *Scottish Trade with German Ports, 1700–1770. A Sketch of the North Sea Trades and the Atlantic Economy on Ground Level* (Stuttgart: Franz Steiner, 2008), ch. 2.

4 A. W. Crosby, *The Measure of Reality. Quantification and Western Society, 1250–1600* (Cambridge: Cambridge University Press, 1997).

5 See also, Jeremy Black, *The Power of Knowledge* (New Haven, Connecticut: Yale University Press, 2015).

6 See works mentioned above n. 1. Other recent and useful studies on the development of statistics in the early modern period include William Deringer, *Calculated Values: Finance, Politics, and the Quantitative Age* (Cambridge, MA: Harvard University Press, 2018); Lars Behrisch, *Die Berechnung der Glückseligkeit: Statistik und Politik in Deutschland und Frankreich im späten Ancien Régime* (Ostfildern: Jan Thorbecke, 2016).

7 On the administrative history of the eighteenth-century British Customs System, see Rössner, *Scottish Trade in the Wake of Union*, chs. 2 and 3 for the source interpretation; William J. Ashworth, *Customs and Excise. Trade, Production and Consumption in England, 1640–1845* (Oxford: Oxford University Press, 2003).

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10 Historians have deployed several strategies of dealing with this when interpreting early modern British trade statistics, see, for example, S. D. Smith, "Prices and the Value of English Exports in the Eighteenth Century: Evidence from the North American Colonial Trade," *Economic History Review*, Second Series, LXVIII, 3 (1995), 575–590; J. J. McCusker, "The Current Value of English Exports, 1697 to 1800," *William and Mary Quarterly*, XVII, 3 (1971), 607–628; P. Deane and W. A. Cole, *British Economic Growth 1688–1959. Trends and Structure*, 2nd ed. (Cambridge: Cambridge University Press, 1967), pp. 40–50, pp. 315–322 (App. 1).

11 Ulrich Pfister and Christine Fertig, "Coffee, Mind and Body: Global Material Culture and the Eighteenth Century Hamburg Import Trade," in Anne Gerritsen and Giorgio Riello (eds.), *The Global Lives of Things: The Material Culture of Connections in the Early Modern World* (London: Routledge, 2016), pp. 221–240.

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K. O'Brien, "The Nature and Historical Evolution of an Exceptional Fiscal State and its Possible Significance for the Precocious Commercialization and Industrialization of the British Economy from Cromwell to Nelson," *Economic History Review*, 64, 2 (2011), 408–446.

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19 Deringer, *Calculated Values*.

20 Joel Mokyr, *The Enlightened Economy: Britain and the Industrial Revolution 1700–1850* (London: Penguin, 2011); Black, *Power of Knowledge*; Dorinda Outram, *The Enlightenment*, new ed. (Cambridge: Cambridge University Press, 2013).

21 See for instance the estimation of national income figures based on developments in trade in P. Deane and W. A. Cole, *British Economic Growth 1688–1959. Trends and Structure* 2nd ed. (Cambridge: Cambridge University Press, 1967), a work that was heavily criticised and revised subsequently, most significantly by N. F. R. Crafts, "English Economic Growth in the Eighteenth Century: A Re-examination of Deane and Cole's Estimates," *Economic History Review*, Second Series, XXIX (1976), 226–235; id., "British Economic Growth, 1700–1831: A Review of the Evidence," *Economic History Review*, Second Series, XXXVI (1983), pp. 177–199, and id., *British Economic Growth during the Industrial Revolution* (Oxford, 1985). They were also used for simply charting the nature and scope of British commodity trade in the early modern period, see R. Davis, "English Foreign Trade, 1660–1700," *Economic History Review*, Second Series, VI (1954), 150–166; id., "English Foreign Trade, 1700–1774," *Economic History Review*, Second Series, XV (1962), 285–303; id., "The Rise of Protection in England, 1689–1786," *Economic History Review*, Second Series, XIX (1966), 306–317; D. Ormrod, *The Rise of Commercial Empires, England and the Netherlands in the Age of Mercantilism, 1650–1770* (Cambridge: Cambridge University Press, 2004).

22 Jan De Vries, "The Industrial Revolution and the Industrious Revolution," *Journal of Economic History*, LIV, 2 (1994), 249–270; id., *The Industrious Revolution: Consumer Behavior and the Household Economy, 1650 to the Present* (Cambridge: Cambridge University Press, 2008); C. Shammas, *The Pre-industrial Consumer in England and America* (Oxford: Clarendon Press, 1990); ead., "The Revolutionary Impact of European Demand for Tropical Goods," in: J. J. McCusker and K. Morgan (eds.), *The Early Modern Atlantic Economy* (Cambridge: Cambridge University Press, 2000), pp. 163–185; H. –C. Mui and L. H. Mui, "Smuggling and the British Tea Trade before 1784," *American Historical Review*, LXXIV (1968), 44–74.

23 The following paragraphs on taxation and customs practice are based on Rössner, *Wake*, pp. 93–96.

24 Female merchants and customs officers could not be traced for the period and sources under consideration.

25 Which was in fact part of a series of Acts of Parliament, viz. 12 Car. II c.4 (the 'first' or original book of rates) and 11 Geo II c.7 (the supplementary item that consisted of valuations and tax rates for cargoes that had not been rated previously).

26 See Rössner, *Scottish Trade with German Ports*, pp. 53–60.

7.4 Further reading

Behrisch, Lars, *Die Berechnung der Glückseligkeit: Statistik und Politik in Deutschland und Frankreich im späten Ancien Régime* (Ostfildern: Jan Thorbecke, 2016).
Crosby, A. W., *The Measure of Reality. Quantification and Western Society, 1250–1600* (Cambridge: Cambridge University Press, 1997).
Deringer, William, *Calculated Values: Finance, Politics, and the Quantitative Age* (Cambridge, MA: Harvard University Press, 2018).
Rössner, Philipp Robinson, *Scottish Trade in the Wake of Union 1700–1760. The Rise of a Warehouse Economy* (Stuttgart: Franz Steiner, 2008).

8 Historical account books as a source for quantitative history

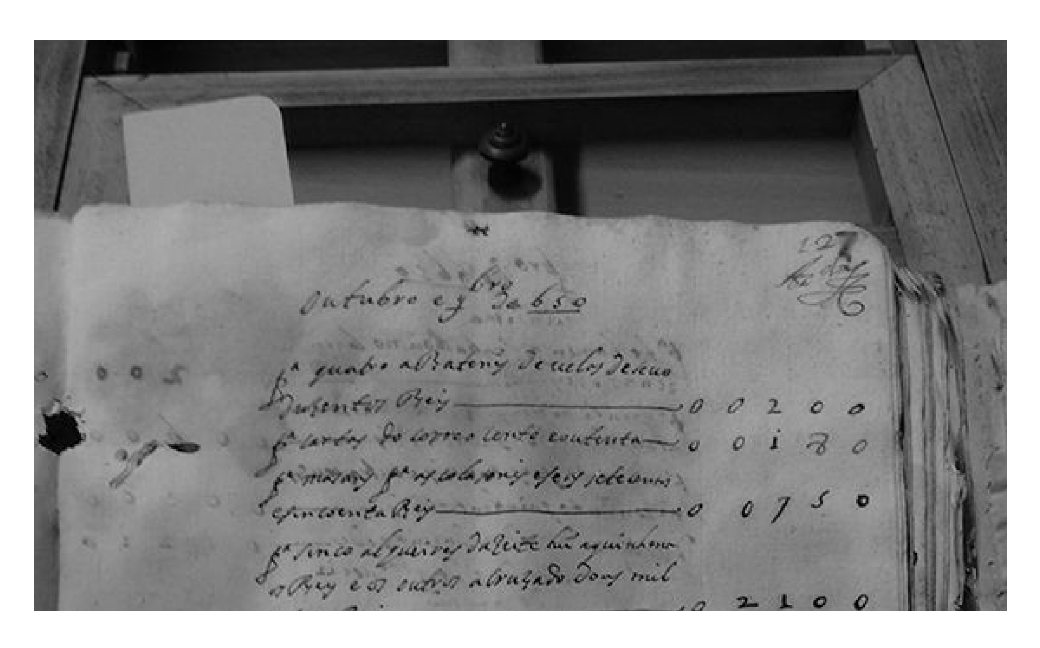
Nuno Palma[1]

8.1 Introduction

Historians love to complain about the lack of sources for quantitative research, but in fact, one thing that the past has left us in great quantities is market prices, wages and rents. Institutional account books are relatively uniform sources which contain expense and revenue records which sometimes go as far back as the Middle Ages. They are available for many parts of the world, and they can be used both for macro and micro historical topics. These include the reconstruction of historical national accounts, the study of inequality, tracking the evolution of human capital skill premia over time, studies of the standard of living, gender pay differentials, and even histories of specific professions.[2] They can hence be used to estimate the evolution of skill premia over time, as well as distributional matters.[3] Even for European history, there is still enormous potential for the usage of this type of source; in other parts of the world, where equivalent sources often also exist, their usage is still in its infancy.[4] Remarkably, this type of source can be used for places where modern states, which kept organised taxation records, formed relatively late.

8.2 Data sources

Different kinds of historical account books sometimes survive, but in this chapter, I focus on historical institutional account books, which tend to be particularly convenient. The most common sources of this nature are the account books of landed estates originally belonging to local government and royal administration, as well as those of historical hospitals, prisons, charities, orphanages, courts and institutions of the church, particularly monasteries and convents. Sometimes account books of longstanding universities also survive – in Portugal, for instance, Palma and Reis (2019) used, among other sources, the account books of the royal university of Coimbra. The sources are today typically placed in National and Regional Archives. These institutions were purchasers of both commodities and labour services. Some of them were also sellers. It is hence possible to collect data on wages and land returns. Capital returns are usually harder to come by, though it is often possible to know certain interest rates, both private and public, as well. The account books typically display the date of the transaction, the gross and unit value of the commodity, the unit of measurement employed, the quality of the product (e.g. coarse or fine paper, mutton, pork or beef) and particular features of the transaction.[5] Figure 8.1, which comes from a 1650 expenses book of a monastery, presents an example.



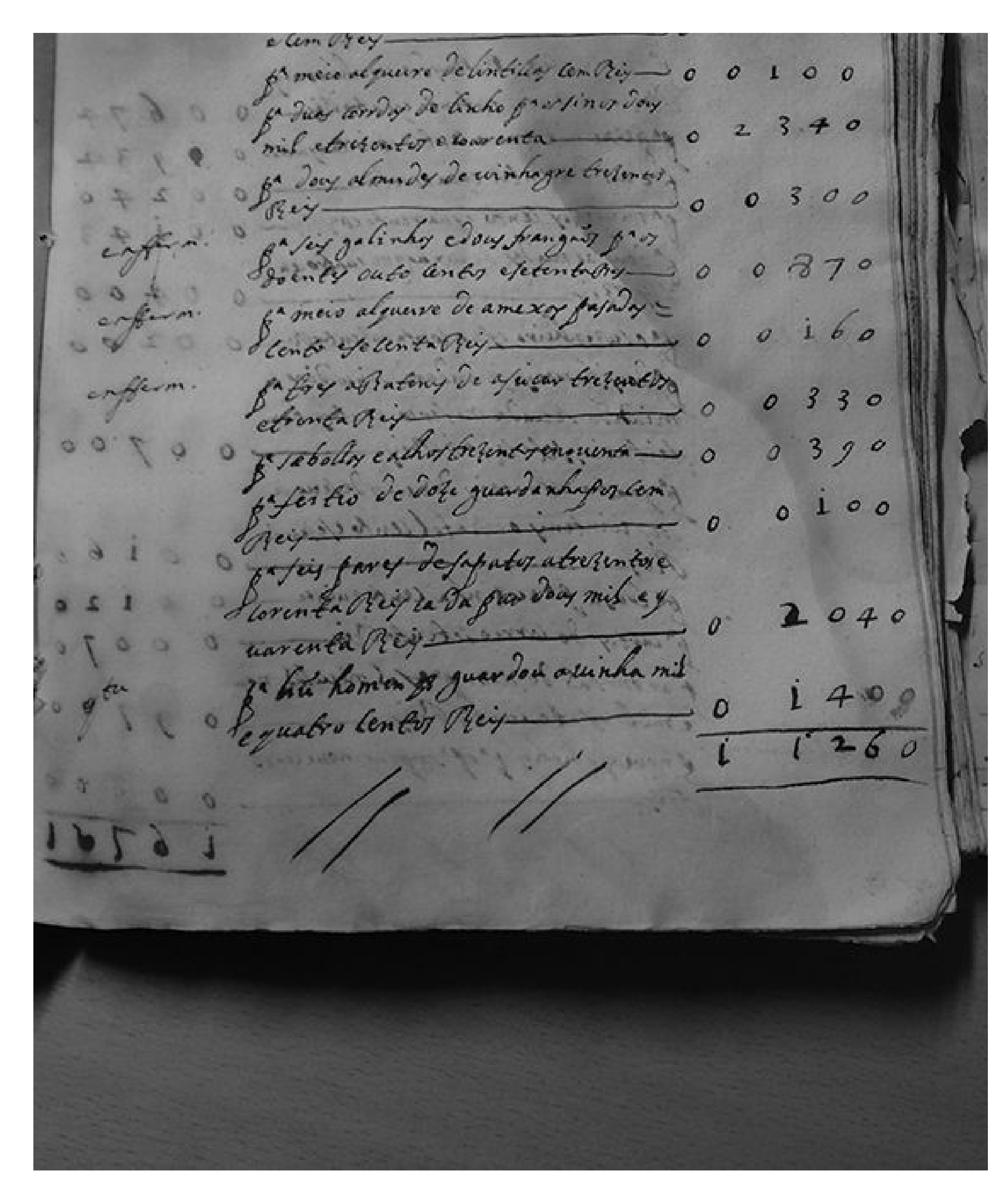


Figure 8.1 Example from an expenses book page containing wages and prices for 1650. From the Convento da Graça de Évora (Códice CLXVII/1–6), now deposited in the *Biblioteca Pública de Évora*. This was one of the sources used by Palma and Reis (2019).

Collecting the data presents several challenges. First, the data is not always digitised. Even when digitised, it can take a long time to be put into a form ready for analysis; this is especially true for the periods before the early sixteenth century for which the few surviving documents may be damaged or otherwise difficult to read. But while it tends to be the case that the further back in time one goes, the data becomes less abundant, this is not always the case. In England, for instance, the period of 1492 to 1553 corresponds to a ‘statistical dark age’ (Broadberry et al 2015, pp. 120–124).

Second, there is the matter of borders. Countries like Italy and Germany did not exist in a political sense prior to the nineteenth century. The most common convention in economic history is to use fixed borders, and these are typically modern borders: that is, when speaking about Germany's GDP for 1500–1850 (Pfister 2011), what scholars mean is the territories which today comprise Germany. For some cases, however, there are exceptions. For instance, Malanima (2011) warns the reader that his GDP estimates for Italy correspond to North and Central Italy only (i.e. he did not use sources corresponding to the modern South). In turn, Markevich and Harrison (2011) use the frontiers of the territory of the Soviet state 1925–1939 as their benchmark. Border changes are to be avoided when possible as they usually lead to jumps in GDP per capita, but this is not always possible: for example, Broadberry et al (2015) switch from England to Britain in 1700.

Third, reading documents from before 1700 or so (in the European case) often requires specialised palaeographic knowledge. It is not the case that documents closer to our time are always easier to read; for some European languages, the script or hand in which some seventeenth-century documents are written can be harder to read than their sixteenth century equivalent. Documents are typically written in vernacular language and commonly use abbreviations, some of which were contemporaneous and thus can be hard to decipher nowadays. The likelihood that Arabic numerals are used does increase over time.

Fourth, there is the matter of physical units. As a precondition to comparative analysis, units need to be expressed in common units; however, when we delve into the past quantities are often not expressed in the metric system, so careful attention and specialised knowledge is required to translate the original quantities to the metric system. During the early modern period, for instance, even small countries often had dozens of different measures at one given time, and even within the same city. For example, in Portugal a measure of liquids (the *almude*) contained 17.4 litres in Évora, 16.8 litres in Lisbon, 16.7 litres in Coimbra, 25.4 litres in Porto. Non-metric measures for the exact same commodity were also common: in Lisbon, charcoal was sold in five different units.[6] In early modern Scotland and until the nineteenth century, each of the twenty-odd shires had their own grain measure called *boll*, which was different in every shire.

Fifth, there is the matter of monetary units. Some countries used multiple currencies (and their value over time, measured in silver, varied as well; see Karaman et al 2019 for a summary which relates to the European case). This is not a big problem as long as for a given location the exchange rate between different currencies is known (including its variation over time). Then if one simply wishes to calculate quantities which are deflated by a price index (e.g. welfare ratios, real wages or real GDP), both the numerator and the denominator will be in the local units which will cancel out.

Sixth, documents do not use modern accounting methods. Double-entry bookkeeping appeared in Italy towards the end of the thirteenth century, and it took time to spread, especially outside Europe (see, for instance, the Chinese case in Yuan et al 2017). This is not a problem if the goal is simply to collect wages and prices, but it can be for the calculation of profits, return rates and for some micro analyses of business practices.

Seventh, it is important to make sure that for a given product, quality is constant across time; furthermore, there may be gaps in several years for which a product is missing while another is available. In order to proxy missing values it is possible to use a similar product or labour type (e.g. tallow candles for wax candles, or carpenters instead for masons, both being skilled workers) by adjusting its price using a price ratio with the original product at a nearby year.

A related important matter concerns the measurement of time worked. The last line in Figure 8.1, for instance, is a payment of 1400 reis "for a man who guarded the vineyard." This sort of sentence is ambiguous about how much time was worked, so it is necessary to use other contextual information, if available, or discard the ambiguous cases. Despite the challenges, as the above discussion and the existing studies suggest, these problems are not impossible to overcome.

8.3 New data, new answers

As mentioned, the prices and income measures collected from these sources can be used to answer both macro and micro historical questions. I now give several examples. By collecting certain prices from the account books, it is possible to construct a price index which allows for inflation-adjusted monetary values to be given for the past. The most popular basket is based at the consumption patterns of mid-eighteenth century Strasbourg. Table 8.1 shows this basket, known as the 'respectability basket' (Allen 2001).[7] Having a long-term measure of inflation over time is an essential precondition to interpreting value over time; hence we need it to interpret any historical monetary quantity in modern terms. For instance, if Henry VII spent £24,000 invading France in the late fifteenth century, how much was that? Historians often have the bad habit of presenting sums in their original amounts (i.e. in current prices, that is, the prices which appear in the sources), but it is impossible for a modern reader to interpret the purchasing power of these amounts. Bringing current-price amounts to the present is a matter of using a price index which can be built using collected prices.[8]

Table 8.1 Respectability CPI Basket

	Quantity per personper year	*Spending share(%)*	*Calories per day*	*Grams of protein*
Bread	182kg	30.4	1223	50
Beans/peas	52 litres	6.0	160	10
Meat	26kg	13.9	178	14
Butter	5.2kg	4.3	104	0
Cheese	5.2kg	3.6	53	3
Eggs	52 units	1.3	11	1
Beer	182 litres	20.6	212	2
Soap	2.6kg	1.8	-	-
Linen	5m	5.3	-	-
Candles	2.6kg	3.1	-	-
Lamp oil	2.6 litres	4.7	-	-
Fuel	5.0 millions of BTU	5.0	-	-
Total		100	1941	80

Source: Allen (2001, p. 421).

Once we have a price index, constructing real wages (i.e. wages that are corrected for the purchasing power at a given location and moment in time) is straightforward: it is simply a matter of dividing the nominal wage (that is, the wage expressed in local monetary units, or alternatively in silver) by the price level, also expressed in the same units.[9] Furthermore, welfare ratios can then be also calculated. They answer: how many respectability baskets can a family of 3.15 consume?[10] Table 8.2 shows the comparative results for the early modern period and the first half of the nineteenth century.

Table 8.2 Welfare ratios for unskilled (and in parenthesis, skilled) workers

Year range	*1500–1549*	*1550–1599*	*1600–1649*	*1650–1699*	*1700–1749*	*1750–1799*	*1800–1849*
Antwerp	1.40	1.28	1.36	1.28	1.34	1.28	1.21
	(2.41)	(2.26)	(2.27)	(2.13)	(2.23)	(2.13)	(2.01)
Amsterdam	1.37	1.37	1.07	1.34	1.42	1.55	1.41
	(2.02)	(1.61)	(1.93)	(1.99)	(2.02)	(1.83)	(1.49)
London	1.42	1.26	1.16	1.37	1.58	1.42	1.41
	(2.19)	(1.86)	(1.82)	(2.07)	(2.21)	(2.21)	(2.31)
Florence/Milan	0.92	0.78	0.73	0.72	0.70	0.51	0.39
	(1.74)	(1.53)	(1.62)	(1.42)	(1.34)	(0.97)	(0.77)
Naples	1.04	0.77	1.01	-	0.96	0.75	0.47
	(1.85)	(1.24)	(1.45)	-	(1.40)	(1.11)	(0.82)
Valencia	1.15	0.90	0.89	0.76	0.75	0.59	-
	(1.79)	(1.18)	(1.06)	(1.13)	(1.16)	(0.86)	-
Madrid	-	0.80	0.74	-	0.87	0.64	0.95
	-	(1.61)	(1.83)	(1.81)	(1.91)	(1.29)	(1.72)
Paris	0.89	0.87	0.85	0.87	0.80	0.74	1.08
	(1.41)	(1.45)	(1.37)	(1.40)	(1.28)	(1.20)	(1.72)
Strasbourg	1.27	0.74	0.70	0.56	0.57	0.61	0.85
	(1.74)	(1.19)	(0.94)	(1.11)	(0.86)	(0.90)	(1.12)
Augsburg	0.92	0.72	0.58	0.93	0.80	0.71	-
	(1.49)	(0.99)	(0.78)	(1.26)	(1.14)	(0.91)	(0.77)
Leipzig	-	0.49	0.61	0.80	0.75	0.64	0.80
	-	(0.85)	(1.04)	(1.44)	(1.27)	(1.06)	(1.29)
Vienna	1.24	0.89	0.88	0.91	0.87	0.71	0.54
	(1.87)	(1.31)	(1.12)	(1.34)	(1.33)	(1.14)	(0.86)
Gdansk	1.07	0.73	0.96	0.85	0.88	0.60	0.87
	(1.52)	(1.59)	(1.65)	(1.89)	(1.87)	(1.25)	(1.00)
Krakow	0.97	1.06	0.92	0.96	0.85	0.88	0.60
	(1.92)	(1.91)	(1.16)	(1.37)	(1.24)	(1.16)	(1.30)
Lwow	-	-	-	-	-	-	-
	(1.93)	(1.83)	(1.63)	(1.00)	(0.96)	(0.81)	-
Lisbon	0.30	0.31	0.31	0.35	0.48	0.50	0.44
	(1.03)	(1.12)	(1.16)	(1.14)	(1.15)	(1.23)	(1.21)

Sources: Palma and Reis (2019) for Lisbon, Allen (2001, p. 428) for the others.

One typical problem with the calculation of real wages and welfare ratios is that in the primary sources many wages – especially those of the unskilled workers – appear as day wages. This is a problem because as researchers we are more frequently interested in annual income, but it is not clear how many days (and hours) people were working.[11] However, different professions were typically paid at different frequencies. Raw labour professions (e.g. casual undifferentiated agricultural workers) and even some mid-skilled professions (e.g. craftsman, carpenters or masons)

were typically paid by the day, while high-skilled jobs (such as lawyers) were paid at lower frequencies. In some cases, people had annual contracts and were paid four times a year. The problem is compounded by the fact that day wage contracts may include a premium for the added unemployment and income uncertainty risk compared with long-term (e.g. annual or even monthly) contracts.[12]

Despite the challenges, using annual rather than daily wages matters greatly for our substantive interpretation of history. For example, in a well-known book, Clark (2007) argues that persistent per capita economic growth only started in the late eighteenth century, and that the medieval English economy was considerably richer than other scholars tend to believe.[13] His evidence is based on day wages, however, combined with his insistence that the working year did not increase. There is, however, considerable evidence that labour input increased both at extensive and intensive levels – that is, more people worked for the market, and people worked more days and hours as well (Broadberry et al 2013; DeVries 2008; Humphries and Weisdorf 2019; Voth 2001; Palma 2018).

8.4 Gross Domestic Product

GDP measures an economy's productive, income-generating capacity. There tends to be a strong, positive relationship between GDP and wellbeing in a country (e.g. measured by education and health outcomes or reported levels of happiness; Deaton 2008; Deaton 2008). Nonetheless, this relationship is only a correlation (rather than the causation necessarily going only from income to those outcomes). There are situations when the evolution of incomes can fail to track wellbeing closely, but these are best thought as exceptions. The notion of GDP is often criticised, for instance, for the way that it deals with polluting industries. This criticism is often exaggerated, since it is cities in poor countries that tend to be more polluted. In other words – and ongoing global coordination challenges notwithstanding – richer societies tend to organise (i.e. regulate) themselves in ways that prevent pollution and other externalities to a greater extent than poorer ones.

The concept of GDP was developed during the twentieth century, and it is sometimes claimed that it does not apply well to previous historical periods for which the informal (e.g. subsistence farming) sector was important and few tax records may have existed or survive. These claims are exaggerated. Outside of the contexts of serious constraints to labour mobility such as slavery or serfdom, the returns to labour time in agriculture or the informal sector (whether monetised or not) are usually well proxied by the unskilled wage; and even in the absence of centralised states a sufficient number of documents often survives.

For the period after 1950 it is possible to use official GDP estimates made by the statistical agencies of most countries (though there are exceptions in poor parts of the world). Between 1850 and 1950 we can use reconstructions based on historical statistical data that are reasonably solid in most developed countries. These include e.g. production series, price data, wages and employment. For less-developed countries we have to rely on indirect measures based, for instance, on import or export statistics of major products. For the period before 1850 more indirect methods and stronger assumptions have to be applied to arrive at plausible data. It is

helpful to distinguish the construction of growth series, which can then be linked to a given benchmark to arrive at earlier income levels, from the construction of the different benchmarks themselves.[14]

The following table shows per capita GDP in 'international' Geary-Khamis 1990 dollars (purchasing power parity). To interpret this, keep in mind the World Bank's well-known definition of poverty as having less than 1 dollar a day, hence about 400 dollars per year (in 1990 prices; today's poverty line is close to 2 dollars). This is a rather arbitrary definition, for sure. It can also be difficult to compare societies which consume very different kinds of goods, not to mention that it's difficult to control for quality improvements. Nevertheless, these problems are mitigated for premodern economies, which consumed reasonably similar baskets, with the exception of different foodstuffs (for instance, olive oil in South Europe and butter in North Europe), though they also had different heating requirements. These problems are here mitigated by the adjustment of the different consumption baskets used in different studies, while keeping the caloric and protein components in each basket roughly constant.

The first thing which is clear from the table is that these societies lived well above physical subsistence. Most of these economies grew in the 1550–1750 period, though some more than others. While Maddison (2006) claimed that Europe experienced significant levels of real income growth during the early modern period (i.e. 1500–1800), by contrast Clark (2007) argues that this was not the case. Getting the timing and magnitude of growth right can help us falsify some theories and clarify others. It may also help new explanations surface. Determining who is right in these matters has important implications for our understanding of the origins of the industrial revolution, for instance.[15] The most anti-Malthusian implication of the data is the fact that both real income per capita and population levels (the latter not shown above) grew at the same time, for most of these countries, during much of the early modern period. Hence for several of these economies the early modern period was one of both intensive and extensive growth. Though medieval income levels were generally higher than Maddison believed (and hence early modern growth slower, given what we know about nineteenth century levels), the conclusions have

overall been closer to the position of Maddison than to that of Clark.[16] Also, numerous studies have confirmed that direct output and demand-based reconstructions of income tend to be consistent (Álvarez-Nogal et al 2016; Broadberry et al 2015, pp. 120–124, Broadberry, Custodis and Gupta 2015, p. 65; Edvinsson 2016).

Table 8.3 Output per capita in Western Europe (1990 Geary-Khamis 'international' dollars)

Year range	*England*	*Holland*	*Germany*	*France*	*Italy*	*Spain*	*Sweden*	*Portugal*
1500	1041	1454	1146	935	1367	846	1195	1189
1550	1014	1798	—	809	1278	891	1125	836
1600	1037	2662	806	901	1216	893	853	790
1650	887	2691	948	965	1247	668	941	830
1700	1513	2105	939	992	1317	814	1357	987
1750	1753	2355	1050	1010	1367	783	1061	1372
1800	2097	2609	986	1045	1216	916	930	916
1850	2718	2355	1428	1597	1321	1079	1171	923

Sources: Annual growth rates from the following sources – England, Broadberry et al (2015); Holland, van Zanden and van Leeuwen (2012); for Germany, Pfister (2011); for France until 1789, Ridolfi (2016); for Italy, Malanima (2011); for Spain, Álvarez-Nogal and Prados de la Escosura (2013); for Sweden, Schön and Krantz (2012) and Krantz (2017) for 1500–1560. For Portugal, Henriques et al (2019) for 1500–1527, and Palma and Reis (2019) for 1527–1850. The levels in this table are calculated by applying these volume indexes to benchmarks corresponding to the endpoint year of each index. In the case of England, figures correspond to the volume indexes of England before 1700 and Great Britain afterwards applied to the 1870 level of Great Britain (Broadberry et al 2015, pp. 375–376). In the case of Holland, borders correspond to Holland until 1800 and the Netherlands for 1850; a benchmark for 1807 was used for the data prior to 1800 (van Zanden and van Leeuwen 2012, p. 121), and the 1850 level is from Smits et al (2000). The other benchmarks are from Maddison (2006) and correspond to 1820 for France (with additional assumptions; see Ridolfi 2016, p. 196), 1850 for Germany, Spain, and Portugal, and 1913 for Italy and Sweden. The 1800 level shown for France in the table is Ridolfi's 1789 level. For France in 1850, the level is that given in Álvarez-Nogal and Prados de la Escosura (2013, p. 23). Italy corresponds to north and central Italy only; Germany corresponds to the present-day borders of Germany.

8.5 Limitations

Since relative prices changed over time, by using the fixed (over time and space), 'respectability' basket of Table 8.1, consumer demand is implicitly assumed to be price and income inelastic, an assumption which is only defensible on pragmatic terms, due to the data collection limitations.[17] But across time and space, relative prices changed due to different local conditions related to weather, land quality, technology, institutions, and culture.

These are problems that modern growth accounting studies also have.[18] For instance, it is difficult to account for the usage of new goods and technologies, especially when fast adoption and price drops do not adequately represent gains in consumer surplus – imagine a consumer surfing the internet, using Wi-Fi on a tablet for free. Tablets did not exist in 1980 (they would have had a price of infinity), and were perhaps already available in the 2000s but at a high price and low quality compared with those used today. Hedonic price indexes try to account for these changes, but often do so in an unsatisfactory manner. The problem can only get worse for very distant time periods for which consumption patterns were very different from our own. Nonetheless, all of these considerations suggest that modern economic growth has even been stronger than it is conventionally assumed. Furthermore, non-market prices (e.g. think of attributing a value to government services) mean that cost proxies must be used – this latter problem is actually mitigated for past economies for which the size of government (and the external sector) were small. The notion of GDP may even be more appropriate for the past to the extent that modern economies rely much more on government services and on a larger variety of goods – many of which intangible – than premodern economies did.

As is the case for modern economies, it is hard to control for not only different local consumption patterns[19] but also quality changes and the appearance of new goods, many of which appeared for the first time in Europe in the early modern period, including maize, potatoes and tomatoes. Some studies have made adjustments to local and time-specific consumption patterns to mitigate for these problems, such as using the

previously mentioned substitutions in the form of olive oil and wine consumed in the South of Europe instead of butter and beer in the North (Allen 2001, p. 421; Palma and Reis 2019).

As for GDP, there can be historical countries and periods during which trends in GDP growth differ substantially from those of welfare improvements.[20] GDP per capita can diverge from specific measures of living standards of consumers and workers such as real wages, or more comprehensive measures of welfare that account for differences in health, leisure and inequality. But an aspect of GDP per capita is that it can also be used as the basis for productivity comparisons; these have the potential to shed light on the proximate and fundamental sources of income differences between countries.

Supply-side reconstructions (which use production or output data) have clear advantages over demand-side ones, but the latter have much less demanding data requirements. And if there is one thing the past has left us in great quantities, it is price evidence from the type of sources I discuss in this chapter – the type of evidence needed for demand-side reconstructions. Nonetheless, the major problems which plague this type of study are the lack of proper purchasing power parity (PPP) benchmarks before the World Bank and United Nations Statistical Commission's International Comparison Program started in the mid-twentieth century. Extrapolating backwards from the first available benchmark using real volume growth rates can lead to cumulative measurement errors.

Finally, as far as the historical account book sources themselves are considered, two prominent limitations of these sources are that they should record market transactions but the institutions could be buying (or selling) in bulk, or have access to certain privileges in buying below or selling above market prices, which could mean different prices than those faced by the typical consumer or supplier. These problems are less limiting than it may seem at first; for instance, the bulk discount argument is irrelevant for international comparisons as long as it applies roughly equally to the sources used for each country, and different sources can be used for the same year and region in order to make sure that the price is representative. Furthermore, prices can often be cross-checked with alternative sources such as probate inventories.

8.6 Conclusion

At a minimum, historians should always, and as a rule give historical monetary values in modern-day equivalents. Having price indexes which give us a measure of inflation over time is hence necessary, despite the challenges involved with their construction and interpretation. Furthermore, these price indexes in turn form the backbone of the construction of real wage, GDP and several other measures of interest for our understanding of the past. Historical account books provide us with the required material needed to unlock these possibilities.

Notes

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2 With regards to the reconstruction of historical national accounts, the degree to which the different studies rely on institutional account books varies; typically, studies that reconstruct GDP from using a demand approach rely more heavily on this type of source.

3 See, for instance, Costa, Palma and Reis (2015), Reis (2017) and Malinowski and van Zanden (2017).

4 Remarkable recent studies for other parts of the world include Abad and van Zanden (2016), Bassino et al (2019), Broadberry et al (2015), and Broadberry et al (2018).

5 The data is easiest to collect when it comes in a list, as is the case with expenses books. But for periods when not enough information of this type survives, it is often possible to alternatively collect prices from individual contracts (e.g. as Palma and Reis 2019 do for parts of the sixteenth century).

6 Often a nineteenth century source lists all the conversions; for the case of Portugal, see Silveira (1868).

7 This CPI does not of course correspond to the modern version of a CPI but it shares with it important features such as the fact that it omits business investment or government expenditures. For a simpler, ‘barebones’ basket, see Allen et al (2011) and Allen et al (2012).

8 It is sometimes not obvious which deflator should be used and the choice of the right option can be subtle. What the correct price index to use is depends on the question being asked, i.e. the exact usage to be given to the inflation-corrected amounts, and presents methodological challenges which go beyond the scope of this chapter; see https://www.measuringworth.com/calculators/ukcompare/

9 In premodern economies it was often the case that in-kind payments were an important part of the workers reward, especially for annual workers (see, for instance, Humphries and Weisdorf 2019). This does not represent a problem to the general approach I describe here as long quantities and prices are available for the non-pecuniary benefits (which is not always the case

when these include a form of board and lodging), or if the real wage of such workers can be well proxied by that of those of a similar level of skill.

10 The number 3.15 refers to the consumption needs of a hypothetical family of two adults and two children, with both children together counting as an adult, plus a 5% per head allowance for renting housing (Allen 2001, pp. 425–427).

11 To consider variation in standards of living we must care about how much consumption were people able to enjoy over a period which includes unemployment and time off.

12 While surviving evidence about skilled wages is typically more abundant, in practice there are not many professions for which both types of frequencies exist, since as mentioned, annual wages were more typically used for higher skilled, i.e. those with a higher human capital element embedded.

13 Note that the two claims are closely related: since we have a reasonable idea of the levels of income for the nineteenth century, slow growth during the early modern period must imply that medieval levels were higher than was previously believed.

14 For details about GDP reconstructions, see Jong and Palma (2018), Bolt et al (2018) and Prados de la Escosura (2000). For a good recent discussions of the complex index number problems associated with these types of calculations, see Prados de la Escosura (2016) and Ward and Devereux (2018).

15 Premodern price evidence can also be useful for debates in economics as well (see, for instance, Velde 2009 and Palma 2019).

16 The opposite is true if we look at the long term evolution of real day wages instead of GDP growth; Clark usually focuses on real wages, though he also has a paper on English GDP; but as it is calculated from the demand side, it rests heavily on those. Also notice that by 1500 population levels had not yet fully recovered from the Black Death, so when we look at early modern growth we should really be looking at what happens after the 1550s.

17 It is assumed that there are no relative changes with respect to income levels, as Engel's law would suggest. As income rises, people are simply assumed to buy more baskets under the same proportions, instead of changing the relative proportion of different goods in the basket (e.g. by eating relatively more meat) or by starting to consume luxuries which are not included in the basket. Laspeyres indexes overestimate inflation as it assumes that expenses are distributed in the same way over time, while the Paasche index underestimates inflation because it uses current period quantities. Also, housing costs are not part of the basket (Allen 2001, p. 422), but these may be subject to income effects as well.

18 See, for instance, McAfee and Brynjolfsson (2014, pp. 108–124).

19 Even *The Economist*'s modern single-good (Big Mac) Index which is designed to compare the cost of exactly the same good which is available in much of the world is faced with the problem that, for instance, McChicken must be used instead in India. I would add to this the fact that in much of the developing world, McDonalds is considered much more of a novelty or luxury dining experience than it is in most rich countries, where it is definitely low-budget.

20 Two related matters are that GDP per capita ignores distribution (because it is an average measure), and that the impact on the environment and other externalities are not adequately considered (e.g. a factory that produces a high level of output by polluting a lot).

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9 History through objects

The example of coins

Philipp R. Rössner

The history of objects currently is a flourishing sub-discipline in the historical sciences[1], even though a recent textbook still states that '[h]istorians have survived, even thrived, during the last two centuries with little or no engagement with objects'.[2] The same can be said regarding one of the most obvious, and yet commonly rejected, historical object type ever: *coins*. Rarely has Europe's early modern history been written from the vantage point of the actual coin. This is odd, inasmuch as coins represent a very obvious starting point for writing history. Since nearly three millennia most societies across Eurasia have used coins (or coin-like objects) as money, usually made from precious metal; the near-complete 'virtualisation' of money (by the use of credit cards and IT technology etc.) has been a fairly recent phenomenon. Coins travelled large distances; they were highly agile, mobile and fungible. In the ninth century Magdeburg pennies could be found as far away as Novgorod.[3] The famous *Reales de a Ocho*, large silver coins introduced in the Spanish possessions in Europe and the Atlantic economy since the later fifteenth century and modelled along the German thaler/dollar example, spread across the globe well into the nineteenth century, being a truly global currency: they were accepted as 'hard cash' nearly everywhere in the Western Hemisphere. And since ancient times there were market economies, in Europe and beyond, and capitalist patterns of economic behaviour and exchange. Since the seventh century BCE such patterns drew intrinsically upon coins. Coined money thus has been at the heart and core of human agency and economy since the best part of the last three thousand years. It must be given due acknowledgement in any history of materiality, including the history of economic cultures through economic objects.

The chapter is divided into five parts. The first section discusses what money was and what shapes it took in the historical or capitalist process. The second section looks at coined money as an historical source or container of information, before section three goes into more detail explaining the political economy of 'making' money in the Middle Ages and early modern era. Section four then studies, based on the groundwork laid in the first two sections, the interpretation of coins and coin hoards as historical evidence. Section five concludes.

9.1 What was money (for) in historical times?

From the Middle Ages onwards, when money began to take a shape more akin to what it still looks like today, to the end of the early modern period coins represented the main share of monetary stock.[4] Coins were usually made of some precious metal with some base metal added for the alloy.[5] Base metal had to be added, for two reasons. On the one hand, it was physically impossible to produce pure silver or gold coins. On the other hand, the varying ratio of precious to base metal within a particular coin determined this specific coin's purchasing power in the market. But silver and gold were marketable commodities in their own right. They had their own markets separate from monetary exchange, and they would compete with the monetary sphere: gold and silver chalices could be smelted and transformed into coin and vice versa, so that any assumption regarding the potential monetary stock of society in the Middle Ages and early modern periods should take account of such 'hidden reserves' of precious (monetary) metal embodied in some luxury vessels and cutlery stocked by the individual household. To give but two examples: seventeenth-century London goldsmiths operated banking services and offered giro and deposit lending. Earlier on, Martin Luther would moan that his was a 'wonderous household: more is going out than coming in' – one of the reasons why his wife, former nun Katharina von Bora would often have to sell, that is *monetise*, silver beakers and chalices to get the Luther household back into a state of financial liquidity again.[6] Adjustments to coins' precious metal content had to be made frequently, as silver supply and silver prices varied considerably across time and space. The fine-tuning of monetary policy required very intricate techniques of metallurgy and minting.

Coins were struck in mints, large manufactories using quite primitive techniques. The supply of silver and gold, in the shape of old or foreign coins, raw gold and silver, bullion (ingots), jewellery and ornaments delivered to the mint were smelted and then transformed into sausage-like pieces or bars. These were cut into thin round slices which were then imprinted with the coin's image, back and front, using a hammer and a die. Before the seventeenth and eighteenth century mechanisation was low, albeit

improving over time.[7] Making money was potentially profitable big business. It required hard physical work, prodigious outlets of fixed and working capital, for buildings, smelting ovens etc. Mint masters should also possess considerable metallurgical and financial knowledge. Accordingly, they were recruited from the merchant class with good knowledge of the financial markets. They also needed the financial means to run such a high-profile business as a royal or princely mint: they needed to be rich, i.e. entrepreneurs and capitalists. In the early and high Middle Ages, small change coins, usually pennies, were imprinted only from one side, because they were too thin and too small to bear a double imprint. In the German lands, these went by the name of *Hohlpfennige* (literally 'hollow pennies') or Bracteates. In later periods, as techniques as well as European economy grew and the hunger for cash expanded, larger nominals were struck, from shillings, groats (*grossus*, plural *grossi*) up to the florins made of gold, and from the 1480s onwards, increasingly from silver (*fiorino, Genovino, Rheinische Gulden, Groschen so einen Gulden gilt, Taler*) whose design was more elaborate, often showing images of the ruler or other symbolic depiction of state power. Depending upon the fineness of the material, the weight and shape of the coins, much more information could be impressed on the material, especially when coins became larger. Muslim *denarii* coins or *Dirhams* in the eighth and ninth centuries are said to have contained more than 200 letters or characters at times; early modern coins could be much more primitive and less complex as containers of information.[8]

Whilst it is obviously impossible to exactly determine the amount of money in circulation for premodern societies, or the relation between coins (cash) and cashless means of payment (credit, velocity of money) in the overall monetary stock at any point in time or for most societies or economies during the Middle Ages and early modernity[9], we know that coins represented the major part of the total money supply. Means of cashless payments, such as the bill of exchange, or credit transactions became increasingly important toward the later Middle Ages but remained restricted, in terms of use and usability, to an extremely small and very exclusive 'club' of merchants who were part of the network of trust, commitment, acceptance and mutual relationship that marked out the exclusive networks of financial actors that actually could use bills of exchange and other related instruments of cashless payment.[10] Towards the

later middle ages and during the sixteenth century both high-value or full-bodied money as well as small change tended to be dominated by silver. Gold florins fell more and more out of daily use but remained important for notation of obligations, payments and dues, i.e. as a money of account (such as the German *Reichsthaler* after 1500 which was never minted as an actual coin). Since the 1470s there was a boom in central European silver mining, with mines and smelting works in the Vosges, Harz and Erz Mountains running hot turning out ever-increasing amounts of the white metal. Then, from the 1550s onwards, output levels in the Spanish mines at the Cerro Rico of Potosí (today in Bolivia) began to yield spectacularly large levels of silver, pricing the central European mines out of the market and accounting for the major share of global silver – of which large quantities were shipped directly to Asia via the Manila Galleon.[11] Spain became the world's major source of silver, but exported most of it. A considerable share went out of Spain feeding European monetary systems and global capitalism. The early modern period was a Silver Age.

According to the modernist concept, money serves a general purpose as a means of exchange, a means of *expressing* value, as well as a means of *storing* value or conserving (transmitting) purchasing power over time (saving, investment). These are its core or economic textbook functions so to speak. To these may be added money's role as a means of communication, politically, economically as well as culturally. Whenever a ruler strikes a coin with his image on it, the money will communicate a political, as well as cultural message (if only the ruler's portrait or *image*) to its bearer. The message says, for instance, 'I am the ruler and this is my kingdom. On this coin, you will find an image of mine'. This pictorial message or image can be found usually accompanied by some sort of regal or royal insignia, for instance, a sword or a cross. In a modern context, where money is (usually) territorial, or supra-territorial as in the monetary coordination schemes such as the EURO, the modern reader would expect such a message to go on like this: 'Please note that in my kingdom/realm my money will be the only and exclusively accepted *legal* means of payment'. But such was not the case in early modern and medieval Europe. Our modern notion of legal tender did not exist in the medieval and early modern period. Until the late nineteenth century Europeans used a bewildering variety of currencies and coin types at the same time, of different sizes, denominations and origin. They would

chiefly rate coins not by what they looked like but by how much silver or gold they contained. Modern notions of territorial money only took hold very late. The Thirty Years War (1618–48) – which saw a hyperinflation due to princes experimenting with copper currency of no intrinsic value (*Kipper-and-Wipper-Inflation*, 1619–23) – acted as a catalyst for such a modern 'territorial' system of money.[12] But in the Holy Roman Empire (Germany) around 1500, there were about three hundred territorial 'states' and state-like entities (duchies, counties, abbeys etc.) whose rulers were entitled to mint their own money, and about five hundred mints were known to exist. Some territories or states had more than one mint, i.e. a place where coins were struck – usually a capital city or city of regional trading importance.[13] Foreign and domestic coins would circulate relatively freely and peacefully alongside one another. Many rulers were quite happy to have foreign coins admitted as what we would call 'legal tender'. They (or rather their officials, mint masters and mint wardens) simply put an official value (spot exchange rate) upon them that would tell people how much one specific foreign type of coin was supposed to be worth in 'our money'. This process was tariffing by valuation or *Valvation* as contemporaneous German legal terminology had it.

So far for some intricacies of money and its use in daily life. But what to make of coins as objects and historical source?

9.2 Telling the truth? Money as an historical source

Object-focused histories of coins used to be associated with the now all but defunct academic discipline of numismatics, once queen of the auxiliary historical sciences.[14] Whilst this is a pity, there is much more to coins, however, than numismatics (the study of a coin's physical qualities) or monetary economics or monetary history, i.e. the study of money's exchange value in historical times, or monetary and mint policy in historical times). Coins are a nice way of supporting traditional historians' narratives based on the historian's traditional stock-in-trade source, i.e. written documents of various sorts. Even where there *is* a written tradition, it may not always be either factually true or accurate or give away a complete and unbiased story, especially in the case of personal or 'ego'-documents, that is narratives relating to events, chronicles etc. which have not only been proven to be progressively unreliable the further back in time one moves, but also according to peoples' blurred memories, motivations or simply moods and feelings influencing the production of a certain type of record.

Coins, at least prima facie, tell the *truth* about some things – more so, or better than most written documents, which can be biased and deceptive; the good thing is *coins even tell the truth when they are forged* – so long as the numismatist has found out and asserted *that* they are fake. Some questions are impossible to answer by exclusive recourse to written documents, but can be approached, or better solved using coins as archaeological and numismatic evidence. Just consider trade flows: if you are lucky you can find sparse hints in old merchant letters and account books telling you about the usual trade flows and trading patterns. And where they have been preserved, quantitative records produced by the state sometimes document inflows and (less often) outflows of goods for a particular region or territory. Or a ruler produces a document such as monetary ordinance saying 'this coin should contain so much silver/gold and should weigh so many grams'. But is this the truth? Coins give you corroborative evidence, for instance whether rulers and their mint masters really stuck to their promises and really put so much silver or gold in their coins as their edicts and ordinances said they would (frequently there was massive divergence between the normative and the factual! This is what we call 'coin debasement' – i.e. money 'forged' by

the state itself). Coin hoards can give you evidence on trade flows and patterns of monetary flows, because they tend to cluster along specific trade routes and roads that are not continuously or as well recorded in the documentary evidence of the time such as letter and account books. Coins can then be decoded: how much silver/gold/copper/base metal do they contain? What information do they give away in terms of exchange value? What does the image imprinted on the coin give away? Unlike most textual sources which have many layers of possible interpretations and contexts of meaning, and which are transformed by those who produce them in a similar way as by those who consume them (the reader), the information stored on a coin can be compared to a hard drive on a PC. Once the relevant technique of retrieving the data is known (say, the analysis of a coin's weight and fineness) anyone equipped with that technique will be able to read essentially the same information from its memory. This straightforwardness is something most if not all textual sources usual lack, as a flood of re-interpretations of the nature and reliability of historical documents in the wake of the Foucauldian Revolution and the 'cultural turn' have asserted.

Alas! The story is not as clear-cut as one may wish. And it is the historian's task to make sense of a bewildering variety of different stories 'told' by different pieces of evidence, object-based as well as written. To elucidate this let us start with two coins. They are roughly of the same age, both from a similar spatial and cultural context. One is a penny (*Pfennig*), a small type of coin struck in the Inner Austrian Lands around 1459/60, the penny being the most common type of small change that had been around in Europe since Charlemagne's monetary reform in 794 A.D.[15] The other is a famous example of a silver florin or *Thaler* (hence 'Dollar') coin struck in Saxony since 1500 (Figure 9.1).



Figure 9.1 Good Money! Saxon silver florin (Joachimsthaler/‘Thaler’), c. 1486–1525. INTERFOTO/Alamy Stock Photo.

The physical characteristics of these two coins are revealed at once by a basic numismatic exercise. The larger silver florin has a fine weight (silver content) of 27.435 grams of pure silver, bringing the raw or gross weight of this coin close to 30 grams (29.232 grams to be precise).[16] Some copper or other base metal or alloy was added to the coin by necessity, as it was physically impossible to produce pure silver coins, i.e. money that consisted of 100 per cent silver. The diameter of the florin or *Silbergulden* (Figure 9.1) is around five centimetres. It lies nicely in your hands, quite heavily in fact. It makes for a nice feeling of robust, powerful currency. The official monetary ordinance of the day, the Leipzig Currency Ordinance of 1500 which remained valid until 1542 stipulated that this nominal (the silver florin or Thaler, as opposed to the Rhenish or gold florin at identical face value) should exchange at 21 *groats* (*Groschen*) or 252 pennies (Pfennige/d, at 12 d to the *groat* in nominal terms). No coins other than Saxon money or those exceptions of foreign coins defined in this ordinance would qualify as legal tender in the Saxon lands. Everyone who fell afoul of these legislations should pay a fine. These fines could be quite hefty; whoever could not pay them due to poverty or lack of ready funds should incur some sort of corporal punishment, such as the severing of one hand.[17] Similar sets of

rules and conventions applied in all other German states during this period.[18] Due to their high silver content and purchasing power, and the fact that this silver content tended to be fairly constant over time, these *Thaler* coins attained a proverbially positive connotation as 'hard' or 'good' money. They passed on their name and characteristics as a brand to many currencies circulating within, as well as outside Europe between the fifteenth and nineteenth century, most prominently, of course, the modern-day US$, but also the famous *Reales de a Ocho* (Pieces of Eight) that attained fame in intercontinental trade during the seventeenth, eighteenth and nineteenth centuries and continue to live on in the Brazilian Real (R$).

The other coin (Figure 9.2) could not be more different. It weighs little more than 0.5 grams, about one sixtieth of the florin in Figure 9.1. It is almost quadrangular with a measurement of 13.5 x 13.4 millimetres and contains practically no precious metal (silver) whatsoever; at least not to the amount to be traceable and confirmed by contemporaries other than those equipped with specialist metallurgical and financial market knowledge, such as silversmiths, mint masters, merchants and money changers. It had presumably been minted at the Linz (Enns) mint around 1459.[19] At the time it was issued the monetary authorities of the day intended it to circulate roughly at the exchange value of a standard penny, i.e. 240 or 252 d to the florin. But shortly thereafter, i.e. in 1460, exchange rates of up to 3,600 pennies to the florin were recorded in contemporary documents. People stopped accepting them as 'valuable' forms of payment; these coins had literally become worthless. By then these coins had attained their proverbial name for which they became (in)famous until today: *Schinderlinge*, literally: 'oppressor pennies'.

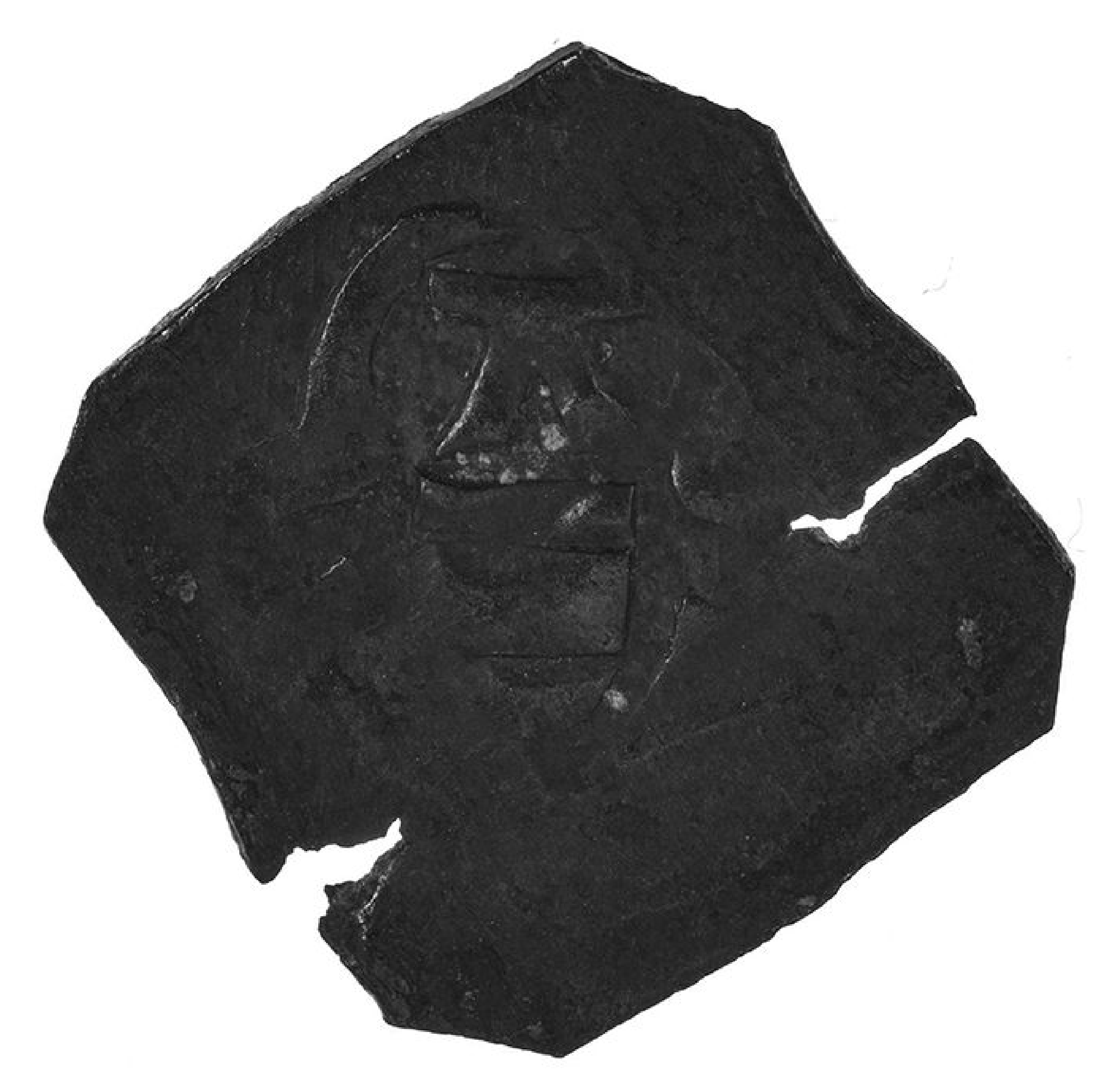


Figure 9.2 Evil Money! Austrian penny, c. 1459. Courtesy of Deutsche Bundesbank, Frankfurt am Main. Images kindly provided by Juliane Voß-Wiegand.

With this *Schinderlingsinflation* we have one of the earliest documented hyperinflations in the history of Europe. The next one would come in 1619–23, as the 'Kipper-and-Wipper-Inflation'[20] and then again three hundred years later in the German Hyperinflation of 1923. These hyperinflations happened seldom enough. They were usually several hundreds of years apart and represented the most violent consequences of a fluid monetary standard that moved constantly between two competing concepts of money. One was

the concept entertained by the state that said coins, including small change, should circulate at face value. The other concept was based on the practice of checking coins for what they were really worth, based on the amount of silver or gold they contained. And in the case of smaller coins, this amount tended to erode faster over the centuries than these coins' nominal or face value. There was in fact, between the fourteenth and twentieth century, a near constant erosion in small coins' purchasing power – the Scourge of Debasement (Spufford 1988). This created numerous social and economic problems. It would lead to people calling the coins 'bad' or 'evil'. Rulers would sometimes use debasement (i.e. the reduction of a coin's precious metal content) as an ad-hoc or emergency tax for which, as opposed to regular taxes, no parliamentary consent or confirmation by territorial estates was needed, for instance to finance a military campaign. The state would ask the public to use coins at face value even though their material value fell far short of their imputed or officially-set purchasing power. But the public soon began to mistrust such a 'modern' or *fiat concept* of money. Whenever they could verify the precious metal content of coins and found that they contained less silver or gold (in the case of the high value coins, but gold coins were seldom issued underweight) than they ought to, they would rate them down, devalue them. They would then use coins according to their intrinsic value, i.e. what they were worth on the silver (and gold) market, based on what they contained in terms of precious metal, not by tale (meaning the nominal or official accounting value, i.e. based on what the law said coins should be worth). This monetary standard is usually called a *commodity standard* or theory of money. These two concepts – fiat vs. commodity money – were two versions of trust as a source of value; two competing versions of 'grammar' or syntax for economic exchange. Since the time of devolution of monetary policy by Henry VIIs *Statutum in Favorem Principum* (1231/2), when monetary authority had been given out of the Emperor's hands into those of the individual princes and territories in Germany these concepts were in constant competition; this state lasted until late in the nineteenth century. They led to 'good' money circulating alongside progressively growing amounts of 'bad' money. And it was bad or underweight coins that created a lot of economic and social problems in daily life, so bad in fact that it could lead to revolts and upheavals.

Thus we need to dig deeper into the methodology of evaluating coins as material sources for the history of capitalism. Let's start with the actual process of making money in medieval and early modern Europe.

9.3 Making money

In the Middle Ages and early modern period, the most common way of 'making' money was 'free minting'. Under a free minting system anyone (mostly merchants) could bring as much silver as they wanted to the mint at any time and receive coins in return at a prescribed rate (called *mint equivalent* or *mint ratio*). Usually the princely or royal mint was leased out to a private entrepreneur (*mint master*) who would operate it quite as anyone would operate a profit-making business. In return for running the mint, the costs of minting (*brassage*), as well as the financial reward of the royal or princely/stately prerogative of providing money (*seigniorage*) were deduced from the coin's intrinsic value; these profits from minting were shared by the mint master and king, not necessarily equally. Most coins therefore contained proportionally less silver or gold than their nominal value or purchasing power, based on the amount expended on *brassage* and *seigniorage*. Coined silver (and gold) thus enjoyed a premium over un-coined, and thus un-standardised, silver (or gold) bars, ingots or plate – because coins were more fungible, ready for use, than silver ingots. In twelfth- and thirteenth-century Venice this margin could be up to 20 per cent for good or full-bodied money, but usually it should be lower, in the area of five per cent (which was also the legal rate for 'usury' or interest on commercial loans).[21] A coin's material value or purchasing power could be more easily ascertained by the public than raw silver or gold in the shape of bullion, ingots or bars, which required considerable metallurgical and chemical expert knowledge. Coins therefore bore a liquidity premium, making transactions cheaper and more efficient, because they reduced transaction costs (at least in theory: reality, however, was more complex, as will be shown below).[22] Rulers had no means of controlling the amount of legal tender in circulation; the public chose how much cash they would hold.

Fully fiduciary or copper currencies were known in medieval and early modern Europe but never successful prior to the 1900s A.D. Spain experimented with a pure copper currency in 1596. A decree of the Westphalian Imperial Circle of the German Empire was based on a similar model for purely fiduciary small change coins struck of copper in May

1599.[23] Other countries, such as France, Russia and Germany, particularly during the *Kipper-and-Wipper-Inflation* 1619–23, at times experimented with copper currency during the sixteenth and seventeenth centuries. But these experiments remained short-lived. All experiments with a fiduciary copper coinage were met with price inflation within one or two decades, as well as appreciation of precious metal coins in terms of copper coins.[24] People did not yet entertain the belief that copper could fulfil the crucial functions of money which gold and silver did: as a reliable means of exchange and store of value.

But princes, kings and mint masters frequently were not above abusing their monopoly on making coins for profit by significantly reducing a coin's intrinsic value beyond the limits given by *seigniorage* and *brassage*. In the fourteenth century, the French kings used debasement to raise what modern economists call an 'inflation tax' to finance their numerous wars.[25] They set a fixed price at which precious metal (silver) was bought by the mint (master), whilst at the same time leaving the public without a real clue, and deliberately so, of how much silver exactly the new coins would contain. Depending upon how quickly the public would detect the deceit – which any debasement of that sort invariably was, and depending on how long the new coins were accepted by the public as valid means of exchange at face value, debasement would be temporarily successful. The French state or King would take the difference in value compared to what the coin should originally contain (before debasement) as a tax or Royal income. In France more than 120 debasements of the currency took place between 1225 and 1490, equalling slightly more than one debasement every two years – a very shaky monetary standard to say the least but borne out of the perennial need of the French Crown to raise money for their armies and war campaigns.[26]

Obviously, the price of silver as the basic monetary material would also, in many cases, be a prime mover for debasement. Whenever the price of silver for a given unit of weight increased beyond the price the public received for delivering silver to the mint, the fine weight (share of silver or gold) in each new coin would have to be reduced, to safeguard a certain level of monetisation. Otherwise the public would have withdrawn coins from circulation when they were over-valued. This brings us to the economics of minting. There were at least three, if not four, different monetary 'layers' or transaction spheres: the high-value coins, in the

German lands called *Goldgulden, Rhenish florin, Ducat* and its silver equivalent, the silver florins or *Thaler* etc., were made from gold or silver with only a little addition of copper or other base metals. They were called 'full-bodied', as the value of gold or silver contained in them came close to their face value. Below them came the medium sized coins, most commonly called *groats* (Groschen) or *batzen* which still contained relatively high amounts of silver. At the third level the whole story became tricky. Small denominational coins such as *pennies* and *hellers* were, in relative terms, extremely costly to make. Production costs per unit far exceeded their nominal value (see below). For this reason, they usually contained significantly less precious metal than they were worth in terms of their nominal or exchange value. Here people had inserted something akin to a modern or fiduciary theory of money into the traditional model. But the common folks would find this double standard – chartalist as well as fiduciary – bewildering and confusing, if not schizophrenic.

Minting (or striking) coins was physically demanding work. It was also costly, and usually an activity carried out by professional entrepreneurs (mint masters). One hundred kilograms of silver provided in 1500 the opportunity to strike about 1.7 million *hellers* (German half pennies) or 637,000 pennies containing between one and two grams of pure silver – but only 3,571 silver *Thaler*s containing about 27 grams of silver. Clearly it was relatively cheaper (and minting profits accordingly larger) to strike larger and heavier full-bodied coins, such as silver or gold florins (Thalers). The same amount of (precious) metal, say 100 kg of silver (present example), could be processed with less input of work (hammering, cutting, smelting; hours of labour for the mint master and his workers) and capital (e.g. rent charges for mint buildings and equipment), compared to small-change coins such as *groschen* and pennies. In fact, in those cases where documents with details of costs and expenses for minting survive, such as in Saxony around 1600 A.D. they uniformly attest that the minting of pennies and groats usually occurred at a loss, whilst only full-bodied nominals and as good groats (e.g. Saxon *Dreier, Engelsgroschen*) and Thalers yielded a profit per unit struck.[27] Many rulers and mint masters were therefore either reluctant to strike small change coins, or else were tempted to cover their losses by debasing and putting them into circulation significantly below face value.[28] This reduced these coins' monetary function as a means of exchange, a

signifier of value and a means of storing value. Rather than lowering, these bad monies increased transaction costs and created considerable social asymmetries as well as economic problems.

Let’s now move to the archaeological record, i.e. the point where coins ‘surface’ on the historical record as historical sources, i.e. in the shape of a hoard.

9.4 Interpreting coins and hoards: Numismatics, archaeology and the history of capitalism

Coins are usually found or traced by archaeological research, as well as private treasure hunting. If the latter is the case, by German law private individuals are liable to declare any such treasure find or coin hoard to the public authority, and similar rules probably apply in every other nation of the West. Numismatic data on coin hoards, which are documented in modern databases for Germany, the Netherlands (and in many other European countries by semi-official commissions and associations of numismatists and stately coin collections or 'coin cabinets') may give us a very rough proxy for a lot of features of monetary history, including trade flows and payments, or the average level of holding money.[29] Numismatists usually date coin hoards by determining the age of the most recently-struck coin to be found in each hoard. This gives us a tentative *post*-date or minimum age for the hoard, but it also gives ample room for question, criticism and reflection. First of all, the numismatic method rests on a series of assumptions which are likely to influence the statistical significance of any evidence derived from coin finds.

1. Before the deposit of the treasure hoard there was an opportunity to bury the coin.
2. The proprietor of the hoard had some sort of desire or motivation to bury the money underneath the ground.
3. He or she was prevented from unearthing the hoard subsequently (i.e. to re-monetise it).
4. Instead the hoard was rediscovered by someone else, i.e. different from the hoarder, at a later stage.
5. The hoard has been captured and documented by some sort of academic engagement, usually some sort of numismatic publication including a detailed description of its contents (dated coins).

Numismatics developed from a private hobby to academic discipline during the eighteenth and nineteenth century as a so-called 'auxiliary science', 'auxiliary' denoting that this was, in a way similar to palaeography,

codicology, sphragistics etc. a discipline and technique of making sense of historical source evidence which historians used as ground base to develop historical narratives. The nature and method of *numismatic* endeavour has it that we are dealing with one of the most important, if largely unwritten, sources for the historian. As a discipline numismatics is also contingent upon what the market, i.e. supply and demand for historic coins affords and produces. Given the dynamics of numismatics turning more and more into an oblique hobby of the private collector with the last remaining university chairs in numismatics in the western world at the brink of being closed down, the numismatic record is, as the numismatist, in many ways an endangered species and contingent upon the fashion of the times. For these reasons, coins from antiquity are preserved in a much better shape and higher density than, say, coins from the early Middle Ages, or even more recent times, e.g. the eighteenth and nineteenth century, as coins from those times have not attracted the same degree of interest amongst professional numismatists as well as private collectors.

Coins also tend to crop up much more frequently on the countryside. This seems odd but is relatively easy to explain. Economic historians have usually associated coin use and capitalism with cities and urban markets. Yet in cities, towns and other settlements coin hoards are seldom dug up from the ground. This has to do with the subsequent layers of an area's built history. Unless a particular building site is being redeveloped, which would occasion the tearing-down of an existing building and thus possibly entail the finding of a hoard, chances of discovering new treasure finds are decidedly slim, as the urban fabric and landscape is consolidated horizontally and vertically. This aspect suggests a relative stability in the probability distribution of new coin hoards.

If a coin hoard remained in the ground, one needs to be careful with conclusions as to the economic, social or religious circumstances that may have prevailed at this coin hoard's actual time of deposit. Times are a 'changing, and the conditions preventing the original depositor from unearthing his or her treasure at a later stage may be different from the conditions that prevailed at the time of deposit and which may have motivated or triggered the initial deposit of the coin hoard in the first place. There is also something which I would like to call the 'Squirrel Effect': people may simply forget, after burying a coin hoard, where they put it in the

ground. Just consider the enormous range of folk and fairy tales from the early modern period about hidden treasures and people taking all pains and expenses to locate and unearth them, often at the cost of losing a soul to the Devil (or a child, when they took the child with them to the treasure grove but subsequently forgot to take the child back with them again when leaving the spellbound place). Also, external markers initially placed at the site of deposit for later orientation and remembrance (such as stones, trees, etc.) may have vanished or been removed or displaced in-between. Or the original depositor may choose not to pass on their knowledge to their heir, for personal reasons (avarice, hate, aversion). Lastly he/she may simply fail to do so by unforeseen circumstances such as illness or death.

Naturally, modern databases on coin hoards capture neither hoards that are unknown and still lying underneath the earth, nor those coin hoards put underground in, say, 1500 and then unearthed again in, say, 1515 A.D. In former times people used coin hoards to have the coins re-smelted into new, current money.[30] Furthermore, if I chose to bury a collection of old coins today, say in 2016, the oldest coin being, say, a *Joachimsthaler* or silver florin from, say, 1525 A.D; if then someone else unearthed my treasure hoard again a hundred years later, say, in 2116 A.D (if humanity actually survives until then), we may be led, following standard numismatic practice, to date the hoard to somewhere around 1525 A.D. – and thus get the time of deposit wrong by five centuries. Also, in the very extreme, the total number of coin hoards thus documented may simply reflect, in an inverse relationship, the rate of hoards that are *re-discovered*, reflecting a long-term increase in people's propensity and ability to remember where they had buried hoards, with the hypothetical actual propensity to hoard remaining constant.[31]

These are a few reasons distorting the pattern of detected coin hoards, i.e. the preserved evidence available to the modern historian. What, now, were the possible motivations that led people to bury money? Such motivations may include the following:

1. 'Economic': hoarding, for instance precautionary measures or because the economic situation is not as promising as one may wish for. The general political and societal situation may be perceived as unstable, as there may be war, conflict or revolt. Before 1800 A.D. there was a war

somewhere every second or third year on average. War was the regular experience of people in the age of capitalism's ascendancy.

2. Saving: where modern financial markets and opportunities of investment in interest-bearing assets were lacking and a private banking sector such as savings banks did not yet exist, saving by hoarding would have been the obvious option for most people outside the urban upper and middle classes.[32]
3. The desire to conceal the money from someone else for reasons other than those given in (1) and (2) above, which may include personal reasons of mistrust etc.
4. Protection of the money against fire and theft.

Since it is most likely that hoards can only be formed where there is a sound circulation of money in the first place and thus some sort of functional division of labour exists within society, perhaps even 'deep monetisation'[33], we can expect coins from all monetary denominations to have made it, at some stage or another, at some place or another, into one or several coin hoards. This means, in turn, that coin hoards can be expected to reflect the state and nature of monetary circulation and the market economy.

Numismatists are in disagreement here, as the debate and controversy within the *Numismatische Kommission* of West Germany in 1954 showed, which resulted in a working paper that systematised the rationale of coin hoarding.[34] The database of the Numismatic commission showed no apparent correlation between coin hoard findings for the 200–1500 A.D. period with war-related campaigns and events that we may call the 'political process'.[35] Spatially coin hoards seem to cluster in areas with high economic and commercial development. Stray findings of single or a handful of coins are usually found along the main trading routes or within built settlements.[36] And where we do tend to find them within built settlement, especially towns and cities, they tend to reflect 'piggy bank' patterns of hoarding, i.e. the small man's saving. Merchants and capitalists would have other means of saving; they can be expected to have contributed to this pattern of hoarding money in a much lesser way, albeit findings from this social stratum are not at all unknown. When the house of Martin Luther in Eisleben was excavated in 2003, items found included a wide range of coins from all types and ages,

notwithstanding the fact that Luther often joked how little money he had and how bad he was on economising on cash.[37]

Last but not least, hoarding patterns not only reflect strictly 'economic' considerations but may be also influenced by irrational and non-economic factors not captured by the modern monetarist or Keynesian models. Just think of superstitious use of coins as amulets, votive donations etc. We can nevertheless, with all due caution and reservation, use numismatic data on coin hoards to approximate the likely trend in the velocity of money (V) and its inverse, *k* (the propensity to hold cash) over time.[38] The historian may thus use coins for a quantitative 'story' – be that a story about capitalist patterns of economy, monetary policy, saving, spendthrift, standards of living or else – even relating to the old Max Weber question of whether the Reformation (or better Calvinism) made people more spend-thrift or prudent in saving for an unknown and partly soteriological future.

9.5 Conclusion

Coins tell us numerous stories. Multiple approaches must be used to adequately understand their language. Simple laws of demand and supply and monetary economics may explain some of the more obvious dynamics in money supply, such as the perennial shortage of good or reliable short change.[39] Politics, sociology and the culture of money play their role, too.

In the present case, four strands of a narrative or story or ways of 'looking at things' unfold. Story 1 (numismatics) may relate to a particular coin's silver content, fine weight, raw weight, material, purchasing power, history of minting and coining etc. This is a method that used to be fashionable a century ago (and still is with numismatists today). We may call it a version of historical positivism or 'Historicism', or source positivism: once there was a time when numismatists studied coins just for what they were and established complete libraries with valuable economic data, such as a coin's fine weight, or a list of coin hoards, or classifications of a particular type of coin and mint run – just for the sake of doing so.

A second story took supplementary evidence relating to and detailing the day-to-day political administration of monetary policy, drawing mainly on the documentary or written evidence of a period, embodied in the ubiquitous scholarly editions of coin edicts and monetary ordinances. If this normative evidence was interpreted literally, corroborating evidence, e.g. taken from private business records often would tell a different story. In the 1500s it was said in the official documents that a Thaler should exchange at 21 groats or Groschen, and yet many transactions and private business records suggest that it was given and taken at 22, 23 or even 24 Groschen per Thaler. If we interpret normative documents, such as acts, edicts and law in a traditional Historicist way, believing in the possibility of reconstructing events 'as they were' we won't get this sort of information unless we study normative documents in collusion with private business records and – most importantly – coins as a different category of historical source.

Story 3 (economics) is based on aspects of functionality and laws of economic rationality and business economics. It often presupposes an inherent functionality of the monetary world, as well as more or less perfectly integrated economies, where everybody was fully informed, where

there are no asymmetries in terms of information and economic capability and where people form their decisions perfectly rationally, using the market as the paramount locus of exchange. If we write textbooks and historical monographs in this fashion we may still say that ‘One Thaler exchanged at 21 groats – always’, as though there were fixed rates between the two in the same way as with modern currency. But this would be a very idealistic, if not mythical, modern way of looking at medieval and early modern money. For exactly these reasons people invented, since the Middle Ages, virtual moneys known as ‘ghost money’ or money of account: money that was never physically minted in the shape of a particular coin but kept as an accounting standard for settling balances and making payment. Nearly every large Italian trading city had their own such money of account[40], but the phenomenon has also been known from more recent times, if you think of the (now defunct) ECU which preceded the common EURO currency.

Story 4 would combine aspects of the preceding three, moving the field further. Why would there have been the need to repeat statutory laws referring to monetary transactions and monetary ordinances so continuously, if people adhered to them, after all? Here we come to the social uses and conventions of money. The historian of capitalism would be wise to combine viewpoints and approaches if she finds or comes across a particular coin and ask what different stories this coin is telling her. She then needs to find corroborative evidence, normative (acts, edicts, ordinances), private and business records, including account books, detailing the day-to-day uses of the coin; state records (sometimes giving information on tax payments and the sorts of money accepted for payment of taxes). She must also look at what is said in the collective or cultural imagination about money and coins. Approaches to money, coin and history may include numismatics, political economy, monetary economics supplemented by a cultural, sociological, political and historical approach. Only a holistic view may provide a somewhat better understanding of money and its role and functions in the capitalistic process.

Notes

1 Made popular in the recent blockbuster: Neil MacGregor, *A History of the World in 100 Objects* (London, 2012). Giorgio Riello, *Cotton: The Fabric that Made the Modern World* (Cambridge: Cambridge University Press, 2013). Arjun Appadurai (ed.), *The Social Life of Things.*

Commodities in Cultural Perspective (Cambridge: Cambridge University Press, 1986); on money specifically (from an anthropologist's viewpoint): Keith Hart, "Heads or Tails? Two Sides of the Coin," *Man*, 21 (December 1986), 643–647. Karen Harvey (ed.), *History and Material Culture. A Student's Guide to Approaching Alternative Sources* (Abingdon, Oxon; New York, NY: Routledge, 2018, 2009), esp. the chapter by Giorgio Riello and Richard Grassby, "Material Culture and Cultural History," *Journal of Interdisciplinary History*, 35 (2005), 591–603; W. David Kingery (ed.), *Learning from Things: Method and Theory of Material Culture Studies* (Washington & London: London Smithsonian Institution Press, 1996); Judy Attfield, *Wild Things. The Material Culture of Everyday Life* (Oxford: Berg, 2000); Matthew Johnson, *An Archaeology of Capitalism* (Oxford: Blackwell, 1996); Natascha Mehler, "The Archaeology of Mercantilism: Clay Tobacco Pipes in Bavaria and their Contribution to an Economic System," *Post-Medieval Archaeology*, vol. 43, 2 (2009), 261–281, on tobacco pipes, combines an archaeologist's viewpoint with the problem of eighteenth-century political economy in the German lands; Janet Hoskins, "Introduction," in: Janet Hoskins (ed.), *Biographical Objects. How Things tell the Stories of People's Lives* (New York & London: Routledge, 1998); Paula Findlen (ed.), *Early Modern Things: Objects and their Histories, 1500–1800* (Abingdon: Routledge, 2013); Tara Hamling and Catherine Richardson (eds.), *Medieval and Early Modern Material Culture and its Meanings* (Farnham: Ashgate, 2010) or Renata Ago, *Gusto for Things. A History of Objects in Seventeenth-Century Rome* (Chicago: University of Chicago Press, 2013).

2 Giorgio Riello, "Things that Shape History. Material Culture and Historical Narratives." in: Karen Harvey (ed.), *History and Material Culture*, pp. 24–47, at p. 25.

3 Manfred Mehl, *Münz- und Geldgeschichte des Erzbistums Magdeburg im Mittelalter*, 2 vols. (Hamburg: M. Mehl, 2011), vol. I, pp. 165–270.

4 On some aspects and modern theories on money and money use and the origin of markets in premodern times, see W. Stanley Jevons, *Money and the Mechanism of Exchange* (London, 1876); Philipp Robinson Rössner, "Monetary Theory and Cameralist Economic Management, c.1500–1900 A.D.," *Journal for the History of Economic Thought*, vol. 40, 1 (2018), 99–134; Sitta von Reden, *Money in Classical Antiquity* (Cambridge: Cambridge University Press, 2010). Gary M. Feinman and Christopher P. Garatty, "Preindustrial Markets and Marketing: Archaeological Perspectives," *Annual Review of Anthropology*, vol. 39 (2010), 167–191.

5 Peter Spufford, *Money and its Use in Medieval Europe* (Cambridge: Cambridge University Press, 1988); Philip Grierson, *Numismatics and History* (London: Published for the Historical Association, 1951); id., *Numismatics* (Oxford, 1975); Niklot Klüßendorf*, Münzkunde – Basiswissen* (Hanover, 2009).

6 Martin Treu (ed.), *Martin Luther und das Geld. Aus Luthers Schriften, Briefen und Tischreden* (Wittenberg: Stiftung Luthergedenkstätten in Sachsen-Anhalt, 2000).

7 Thomas J. Sargent and François R. Velde, *The Big Problem of Small Change* (Princeton, 2003).

8 Spufford, *Money and its Use*, passim.

9 Sometimes, and for some countries, scholars have come close. Medieval and early modern England is a good example, where official data allow some baseline estimates of royal mint output for complete runs of years in some cases. If we have reliable evidence as to wear and tear, other losses of money and coin, as well as net imports (exports minus imports) of money or bullion, disregarding for other non-cash forms of payment such as bank notes and bills of exchange, we can speculate about the volume of money in circulation and changes over time. This, however, only works for territorially and politically consolidated nations and states, where government had an above-average degree of statistical insight into trade flows. In many of the medieval and early modern contemporary economies things were more chaotic, and monetary policy ad hoc, which means that the documentary evidence is sparse. But some attempts have

been made nonetheless for some southern German states in the Middle Ages, as well as the Hanseatic realm. See Michael North, *Geldumlauf und Wirtschaftskonjunktur im südlichen Ostseeraum an der Wende zur Neuzeit (1440–1570). Untersuchungen zur Wirtschaftsgeschichte am Beispiel des Großen Lübecker Münzschatzes, der norddeutschen Münzfunde und der schriftlichen Überlieferung* (Sigmaringen: Thorbecke, 1990); Joachim Schüttenhelm, *Der Geldumlauf im südwestdeutschen Raum vom Riedlinger Münzvertrag 1423 bis zur ersten Kipperzeit 1618. Eine statistische Münzfundanalyse unter Anwendung der elektronischen Datenverarbeitung* (Stuttgart: Kohlhammer, 1987); Hansheiner Eichhorn, *Der Strukturwandel im Geldumlauf Frankens zwischen 1437 und 1610. Ein Beitrag zur Methodologie der Geldgeschichte* (Wiesbaden: Franz Steiner, 1973). For England see Nuno Palma, "Reconstruction of Money Supply over the Long Run: The Case of England, 1270–1870," *Economic History Review*, Second Series, vol. 71, 2 (2018), 373–392.

10 Markus A. Denzel, "Introduction," in: *Handbook of World Exchange Rates, 1590–1914* (Farnham & Burlington: Ashgate, 2010).

11 Dennis O. Flynn and Arturo Giráldez, "Conceptualizing Global Economic History: The Role of Silver," in: Rainer Gömmel and Markus A. Denzel (eds.), *Weltwirtschaft und Wirtschaftsordnung. Festschrift für Jürgen Schneider zum 65. Geburtstag* (Stuttgart: Franz Steiner, 2002), pp. 101–114.

12 Benjamin J. Cohen, *The Geography of Money* (Ithaca & London: Cornell University Press, 1998).

13 Bernd Sprenger, *Das Geld der Deutschen. Geldgeschichte Deutschlands von den Anfängen bis zur Gegenwart* 3rd ed. (Paderborn et al.: F. Schöningh 2003); Eckart Schremmer (ed.), "Über 'stabiles Geld'. Eine wirtschaftshistorische Sicht," in: id., *Geld und Währung vom 16. Jahrhundert bis zur Gegenwart* (Stuttgart, 1993), pp. 9–44. On German monetary history, see further, Michael North, *Das Geld und seine Geschichte. Vom Mittelalter bis zur Gegenwart* (Munich: Beck, 1994); id., *Kleine Geschichte des Geldes. Vom Mittelalter bis heute* (Munich: Beck, 2009); Herbert Rittmann, *Deutsche Geldgeschichte 1484–1914* (Munich, 1975), Arthur Suhle, *Deutsche Münz- und Geldgeschichte von den Anfängen bis zum 15. Jahrhundert* 8th ed. (Berlin, 1975); Hans-Jürgen Gerhard, "Miszelle: Neuere deutsche Forschungen zur Geld- und Währungsgeschichte der Frühen Neuzeit. Fragen – Ansätze – Erkenntnisse," *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, LXXXIII (1996), 216–230; id., "Ein schöner Garten ohne Zaun. Die währungspolitische Situation des Deutschen Reiches um 1600," *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, LXXXI (1994), 156–177; id., "Ursachen und Folgen der Wandlungen im Währungssystem des Deutschen Reiches 1500–1625. Eine Studie zu den Hintergründen der sogenannten Preisrevolution," in: Eckart Schremmer (ed.), *Geld und Währung*, pp. 69–84. Older numismatic works include Ferdinand Friedensburg, *Münzkunde und Geldgeschichte der Einzelstaaten des Mittelalters und der Neueren Zeit* (Munich & Berlin: Oldenbourg, 1926); A. Luschin von Ebengreuth, *Allgemeine Münzkunde und Geldgeschichte des Mittelalters und der Neueren Zeit* 2nd ed. (Munich & Berlin, 1926), as well as Friedrich Freiherr von Schrötter, "Das Münzwesen des Deutschen Reichs von 1500 bis 1566," *Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft*, XXXV (1911) and XXXVI (1912), reprinted in: Friedrich von Schrötter, *Aufsätze zur deutschen Münz- und Geldgeschichte des 16. bis 19. Jahrhunderts (1902–1938)*, ed. Bernd Kluge (Leipzig: Zentralantiquariat der Deutschen Demokratischen Republik, 1991), pp. 3–76.

14 Cornerstones and fundamental textbooks in this discipline were, for the English-speaking world, Philip Grierson, *Numismatics and History* (London: Published for the Historical Association, 1951) and id., *Numismatics* (Oxford et al., 1975), and in the Germano-phonic world, A. Luschin

von Ebengreuth, *Allgemeine Münzkunde und Geldgeschichte des Mittelalters und der Neueren Zeit* 2nd ed. (Munich & Berlin: Oldenbourg, 1926).

15 Adriaan Verhulst, *The Carolingian Economy* (Cambridge: Cambridge University Press, 2002), 117s.

16 Most recently analysed in its global context in Philipp Robinson Rössner, *Deflation – Devaluation – Rebellion. Geld im Zeitalter der Reformation* (Stuttgart: Franz Steiner, 2012), ch. III, with further references to the older literature.

17 Rössner, *Deflation – Devaluation – Rebellion*, ch. III. We obviously do not know for certain, however, to what extent these rules were enforced or merely intended as a deterrence.

18 See Rössner, *Deflation – Devaluation – Rebellion*, pp. 330–403 for examples.

19 Luschin von Ebengreuth, Münzkunde, p. 48.

20 Most recently Martha White Paas, John Roger Paas and George C. Schofield, *Kipper Und Wipper Inflation, 1619–23 – An Economic History with Contemporary German Broadsheets* (Yale: Yale University Press, 2012), pp. 1–17.

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22 For a full elaboration, see Rössner, *Deflation – Devaluation – Rebellion*, ch. IV.

23 See e.g. a *Rezess* (resolution) of the Westphalian Imperial Circle dated May 1599, in Friderich Carl Moser, *Sammlung des Heil. Römischen Reichs sämtlicher Crays=Abschiede und anderer Schlüsse, nebst vilen darzu gehoerigen Beylagen, auch mit Summarien, Marginalien und Anmerckungen versehen und grossen Theils erstmals an das Licht gestellt von Friderich Carl Moser, Hochgräfl. Reuß=Plauischen Secretario* (Leipzig & Ebersdorff im Vogtland, 1747), III.

24 Sargent and Velde, *The Big Problem of Small Change*, pp. 227–260.

25 See e.g. Nathan Sussman, "Debasements, Royal Revenues, and Inflation in France During the Hundred Years' War, 1415–1422," *The Journal of Economic History*, vol. 53, 1 (1993), 44–70.

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28 Rössner, *Deflation – Devaluation – Rebellion*, passim, esp. ch. IV; Sargent and Velde, *The Big Problem of Small Change*.

29 See N. Klüßendorf, *Münzkunde – Basiswissen* (Hannover: Hahn, 2009). Walter Hävernick, Numismatische Kommision der Länder in der Bundesrepublik Deutschland/Diskussionsvorbereitungen für die Numismatische Arbeitstagung (Hamburg, 8–11 Oktober, 1954): "Die deutschen Münzfunde des Mittelalters und der Neuzeit" (typescript, Landesmuseum Halle, Moritzburg, collections).

30 Klüßendorf, *Münzkunde*, pp. 25–30.

31 There was a scientifically robust debate amongst professional and state numismatists in (West) Germany in 1954 trying to sum up and systematise the possible pros and cons of utilising and interpreting coin hoards in a monetary history manner. The typescript protocol, supervised and edited by Walter Hävernick, has never been published but is stored in the Landesamt für

Denkmalpflege und Archäologie Sachsen-Anhalt, Landesmuseum Sachsen-Anhalt, Moritzburg, Halle/S., Germany. I accessed the MS in June 2016 and intend to develop a larger conceptual study on using coin hoards as a source for economic and monetary history in the near future.

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38 Philipp Robinson Rössner, "Burying Money? Monetary Origins and Afterlives of Luther's Reformation," *History of Political Economy*, vol. 48, 2 (2016), 225–263.

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10 The news and numbers

A guide to using digitised newspapers

Sarah Roddy

10.1 Introduction

The truism that newspapers publish a putative 'first draft of history' has ensured them a perennial place in the source lists of most modern historians. But mass digitisation of supposedly disposable newspapers over the last decade or more has vastly extended both their use and usefulness in historical research.[1] In work at all levels from undergraduate essays and dissertations to academic monographs, historians are increasingly turning to the print media, incorporating daily and weekly newspapers, periodicals and magazines, as ever more titles become available at the click of a mouse. The variety of research this technological development facilitates is dizzying. In qualitative terms, digital newspaper databases allow easier pinpointing of coverage of specific events and persons, potentially more finely-grained comparisons across time and between territories – with concomitant implications for global and transnational history – as well as much else besides. However, digitised newspapers also offer considerable opportunities for formulating, asking and answering quantitative research questions: for example, they frequently contain national and local economic and financial data unavailable elsewhere, and they facilitate a quantitative, content analysis approach to language change that is generally otherwise untenable. Using examples from my own work in nineteenth-century Irish and British fundraising history, this chapter will explore first the practicalities, then the benefits and drawbacks of employing digitised newspapers as an historical source. It argues that historians at all stages should be optimistic about the new frontiers that the explosion of digitised sources offers, but cautiously so, and that, in particular, students embarking on primary research work should exercise careful practice in their forays into the digital. The chapter starts with a personal view of the advent of digitised newspapers, before laying out practical rules, and signposting possible pitfalls of using them.

10.2 Using newspapers: A personal prelude

As a social historian of nineteenth- and early twentieth-century Ireland and Britain for the past decade and a half, I have likely spent several weeks of my life diligently scrolling through microfilmed periodicals and leafing through hard copy newspapers in various repositories and archives across Britain and Ireland, including, most often, the National Library of Ireland in Dublin, the Newspaper Library attached to Central Library in Belfast, the now defunct newspaper room of the British Library in Colindale, North London, and many other places besides. (I still, of course, regularly have cause to visit such places and consult microfilmed and hard copy periodicals in my work now.) But the timing of the training period in my academic career – I completed my MA dissertation in 2004–5, and my PhD research in 2006–2010 – means that I have sometimes had the very dubious pleasure of doing highly systematic content analysis of a particular newspaper title, by hand and by eye, only for, in relatively short order, that particular publication to be digitised and made available online. Certainly, the appearance of two signal daily titles of the nineteenth-century Irish press, the *Belfast Newsletter* and the *Freeman's Journal*, in fully-searchable, digitised form in Gale's 19th Century British Newspapers database in 2008 was a moment of conflicting emotions for me and several of my fellow Irish historians. We felt much like miners presented with high-powered pneumatic drills, having already, we thought, mined much of the coal with pickaxe and chisel. Equally, however, I have also occasionally had the opposite, seemingly happier experience when a title has been digitised before I could get around to slogging over the microfilm, and much time and effort was saved as a result.

In that context, it is very tempting for historians like me who saw this remarkable technological change unfold before our eyes as we were embarking on our research careers, simply to see digitised newspapers as purely a time- and labour-saving device; certainly, that was how they were (and are) often marketed by the commercial companies who create and/or operate them, and it is how many users saw them when they first began arriving on the scene.[2] But as numerous historians and Digital Humanities (DH) specialists have been outlining over the last five or six years, digitised newspapers can be much more than that – and to an extent they can also be

much less than that. While they have the potential to help historians produce stellar work that would otherwise be impossible, very different or much more laborious and difficult to create, they also have the potential to help historians produce slapdash and shallow work, and do so with unfortunate speed. Gathering material manually is often slow and methodical, and often means observing and analysing in the process; gathering material through digitised searches can, without due care, mean missing vital evidence not containing very specific search terms.

Therefore, this chapter will draw on and reflect upon much of the discursive work on digitised newspapers that has been published recently, some by academics who describe themselves as Digital Humanities scholars, some by historians who might reject that label or at least might not claim it for themselves. This is not to concern ourselves with the politicised tension that seems to be emerging around Digital Humanities, namely the idea that it may be becoming a tool of the neo-liberal university: that it needs and attracts large grants and privileges very large projects over the smaller ones that are often Humanities academics' bread and butter.[3] I would not describe myself as a Digital Humanist, not from any particular sense of political resistance to the field, but more out of a lack of training in the necessary deep-level skills. What I am, however, is a modern historian who wants to get the most out of a sophisticated and ever-growing resource that we are in danger of taking for granted and using unthinkingly. This chapter is therefore designed to serve as a practical guide not to the seasoned Digital Humanities scholars for whom these issues are well-rehearsed, but rather to those of us, particularly students embarking on their first substantive research projects, who wish to use digitised newspapers as part of our historical scholarship in ways that are systematic, careful and creative, without necessarily becoming full-blown DH specialists.

10.3 Some general rules for using digitised newspapers

There can be vanishingly few modern historians who have not now used digitised newspaper and periodical databases to at least some degree in their research. Yet since historians, as A. J. P. Taylor once famously pointed out, are ‘usually inarticulate about themselves’, and ‘find it hard to explain what they are trying to do’[4], it should come as no surprise that methodological discussion of this new resource has been relatively limited despite the enormous scale of its use. Very often, it seems, individuals arrive at digitised newspaper databases with little or no training in how best to navigate them and perhaps even with little sense that any training may be required. What Professor Tim Hitchcock has referred to as the ‘Googleization’ of sources by way of mass digitisation and keyword-searchability,[5] has a bearing not simply on how we perceive what we find but also on how we go about finding. For all that most newspaper databases contain myriad search functions of varying sophistication that allow for narrowing down and specific tailoring of searches, many, when first confronted with the flashing cursor of the search box are reminded of the Google homepage and treat it similarly.

Yet while punching in a few terms related to one’s research topic will almost certainly yield lists of relevant articles that can be sifted through, downloaded and used to construct a history of sorts, this is not a clever approach: it almost certainly misses as much as it hits, it divorces the content from its context and it can, as users frequently find, lead to unmanageably large research tasks. For example, my own interest in Irish Catholic lotteries, as detailed further below, benefits enormously from digitised newspapers. Yet if I simply input ‘lottery’ into a relevant database – the Irish Newspaper Archive – it turns up a list of 10,000 results (the maximum that database can handle, meaning in fact that there are *more* than 10,000 mentions of that term in my time period). Most of these results will not be relevant to my interests, and in any case there are too many for any lone researcher to be able to plough through systematically. The temptation to randomly dip into these long lists of results, knowing that there will certainly be material of interest in them, is obvious, but must be resisted; such a random approach

could only generate a partial picture: a flawed history that leaves out as much as it includes.

There are therefore a number of general points that one must consider before using digitised newspapers, if one is to get the most out of them. Many of these points have been made elsewhere but they certainly bear repeating if the recent conversations I have had with students and professional historians alike are anything to go by.

1. In purely practical terms, as Bingham has well noted, the nature of our search terms is important and we need to be 'imaginative and persistent' in trying out synonyms and variations.[6] This entails quite a bit of reading and thinking work before even approaching digitised newspapers, otherwise we might find ourselves looking in the right places, but with the wrong search terms. For example, if one wanted to discover what newspapers had said about a particular public figure, one might start with their name, but this alone would be unlikely to throw up everything of relevance: oblique references might be made to them via a nickname, a maiden or married name, a formal title (perhaps even titles) or a particular residence, and all ought to be incorporated into subsequent searches. If researching a particular place or organisation it pays to know that names can change over time: for example, any nineteenth-century Irish historian needs to know that the important emigrant port and cathedral town of Cobh in Co Cork was called 'Cove' until 1849, and then Queenstown until 1920, before reverting to a Gaelicised version of its original name. When dealing with particular events, phenomena or abstract concepts, diversifying one's terminology is even more important, and should also be done responsively as one works one's way through the database. For example, as I found when researching charity fraud in Victorian Britain, more familiar words like 'embezzlement' or 'misappropriation' might not come up in a particular case, but a slightly archaic term like 'defalcation' very well might.[7] One also needs to guard against 'false negatives': the absence of a particular term does not mean that a newspaper did not cover the topic to which the user is linking it: the difference between 'topics' and 'words' is important to bear in mind.[8] In sum, the level of time and effort that hitting upon the right search terms takes should never be underestimated.

2. On another practical point relating to searches, it is important to familiarise oneself with the particular quirks of the database one is using. Each database tends to be different in design, and in particular, they tend to offer variant levels of granularity in their search functions. Inputting the word ‘charity’ into the British Library’s nineteenth-century news database gives 980,798 results: narrowing down is a must. Most databases therefore offer at least some limiting functions that mean we can get a manageable set of results. At the very least, most newspaper databases will offer the usual Boolean operators of ‘and’, ‘or’ and ‘not’ which give users the option of combining search terms to narrow or broaden results in particular directions; many also have a function that allows one to specify a phrase by surrounding it with inverted commas, and some will allow such specific phrases to be conjoined in Boolean searches. It is also generally possible to narrow down the date range of newspapers issues in a search – although this may not always be appropriate – and sometimes to search within particular sections of the newspaper. For example, it is especially important that the *Illustrated London News* database allows users to search for images only, but many databases allow searches in letters, advertisements, news articles etc. which has significant implications for historians pursuing certain projects. The key point to retain in relation to all of this, however, is to always read the ‘Help’ section before you embark upon using a new database so that its distinctive search functions can be gleaned, played around with and then properly employed in one’s research.
3. Reading articles in context is essential. Most digitised newspaper searches produce a list of links to articles, which, when clicked on in some databases, notably the numerous Gale ones, will present the user with just the article in question, and not the entire page. This, of course, is not how readers at the time saw or read the piece. This is at the crux of digitisation’s potentially deleterious effects on history: we should want to see the sources through the eyes of the readers *at the time*. This is difficult enough when using hard copies of newspapers that were actually held by those readers, more difficult still when reading, in essence, a photograph of the newspaper from a screen. But while it may be becoming increasingly difficult to experience the materiality of newspaper reading for most people in the past as hard copies get harder

for historians to access, it is possible at least to get a sense of the placing of the article within the page and the newspaper. Most databases make it possible to click through from particular articles to a full-page view, and to browse the edition of the newspaper in which a particular article appears: researchers are urged to get into the habit of doing so, in order that vital context does not get lost.

4. How to record and store the material one finds when searching through digitised newspapers is something less often discussed, but good practice here can be a significant boon, especially, but not exclusively, when dealing with long-term projects. The dilemma is often whether to save to one's device or to print? Again, different databases will tend to dictate possibilities. Some databases (e.g. *The Times Digital Archive*) may only allow one to download and print a full page, which can be impossible to read without the aid of a magnifying glass; if saved instead, one can at least zoom into the relevant text, albeit not without difficulty. Saving and/or printing individual articles, when allowed, creates a more manageable and useable personal archive, although, of course, green considerations mean we ought to favour saving electronically over printing wherever possible.
5. But it is important to then keep track of relevant surrounding material via an index which one ought to create for all saved articles in order to keep track of them. Saved searches may be possible in some databases, but creating one's own index allows uniformity across multiple databases. This will, in tabular form (created either in Word, Excel or Zotero), record the newspaper title, a brief description of the article and its most relevant details (including surrounding material), a file number for the actual download which should be the name of the document for ease of finding on one's computer, and the date on which the article was published. It is also important, for the purposes of avoiding duplication of work later, to record the searches that led one to the particular set of results reflected in the index. A simple line at the top of the index that notes the precise search terms inputted (including any limiters) and *the number of results they yield* has several advantages. It allows one, on a day-to-day basis, to pause in the middle of searching a particular set of results, by noting that a search result produced, say, 135 links and one got through 50 of them: input the same search at the next sitting and one can get started from link number 51. It also avoids repeating

searches if one comes back to the topic weeks or months later, and having recorded the number of results earlier, it gives an indication of any new newspaper titles that may have been added to the database in the interim. It also has implications for sound scholarship: in theory, these particular searches should be repeatable for others later. My findings relating to Irish Catholic lotteries, for example, should when published be testable for any historian who wishes to build on or take issue with them. That is only possible if authors are crystal clear about their methodology: currently, it is not possible to assume that we all use digitised newspaper databases in the same, systematic ways.

These are the controllable practicalities for the end user, but of course there is an important issue relating to the building of the database in the first place that historians as users have not been able to control, but which we still need to consider as part of our practice.

6. As the Victorian scholar Patrick Leary was amongst the first to point out, mass digitisation and its enthusiastic uptake creates an ‘offline penumbra’, wherein undigitised sources are in danger of becoming increasingly marginalised in certain quarters.[9] Students completing undergraduate and masters dissertations, in particular, must understand that what gets digitised *is not all that there is to know about a particular person, event or topic*, and the paper archive ought to (and largely does) remain the bread and butter of most historical projects. As noted below, there is a place for projects that draw primarily on digitised newspapers in imaginative ways, but they ought not to become the dominant mode of inquiry even for students: the physical archive remains a much more instructive first port of call. We must all be very wary, moreover, of seeing particular titles as more important than others simply because they are now more readily available. While a degree of intelligent selection and consultation goes into the decisions on what titles to digitise, historians pursuing particular projects will often find that niche titles for the topic at hand remain undigitised; for example, two important periodicals for those interested in Victorian charity, *Truth* and *The Charity Record*, have very limited digital footprints as yet. Moreover, as Adrian Bingham points out, *The Times* is not representative of British ‘press opinion’[10], any more than, in an Irish context, the *Freeman’s Journal* reflects the views of the Irish media as a whole. One should never, therefore, ignore the undigitised.

It may well be that anyone who has used digitised newspaper databases to any significant degree eventually arrives at most of these ‘rules’ by themselves, through a process of trial and error. Yet there are those who have started to consider digitised newspapers, their use, possibilities and impact on historical practice, much more rigorously. They can broadly be divided into two camps: the Pollyannas, or optimists, who see digitised newspapers as a great new frontier of scholarship and the Cassandras, who also see digitised sources as a boon, but warn that in the way that most historians currently conceive them, we are in danger of corrupting the scholarly process by our use (or overuse, or misuse) of them.

10.4 The pitfalls of digitised newspapers

To the Cassandras of digitised sources first, then. It is fair to say that some commentators are more pessimistic than others, not about digitised newspapers *per se* but about the particular ways that we use them. Perhaps the Cassandra-in-chief is Tim Hitchcock, historian of eighteenth-century London and professor of digital history at the University of Sussex, who was responsible for Old Bailey Online, amongst other databases. In an important *Cultural and Social History* article from 2013 Hitchcock notes that digitisation is turning into 'the creation of the Western print archive, second edition' and argues that the fact that the great majority of it is being created beyond the academy is deeply problematic.[11] He also critiques the profession as a whole for failing to take proper account of the digitisation revolution: 'The vast majority of both journal articles and early modern and nineteenth-century printed sources are now accessed online and cherry-picked for relevant content via keyword searching. Yet references to these materials are still made to a hard copy on a library shelf, implying a process of immersive reading'. 'The impact of new technology', he argues, 'has been subtly downplayed' in our referencing and this amounts to an abandonment of Rankean professionalisation. Academic history is set apart from popular history by its citations, by its traceability. In essence, Hitchcock argues, most historians and students are still footnoting in traditional ways, making reference to physical documents they have not personally seen or handled, rather than the digitised versions they have actually consulted. Hitchcock is certainly correct in saying that historians 'have not established the necessary new systems of reference and validation that would make our use of these resources transparent and repeatable'[12]; there is as yet no universally-accepted or mandated means of recording digitised newspaper sources *as* digitised sources. Nor is there a compulsion from publishers' or departmental referencing systems to record the search terms and limiters that led one to particular articles. This should, in time, be addressed; in the meantime, we might acknowledge use of newspaper databases in our bibliographies if not our footnotes, and, as point 5 above suggests, best practice should be that we also record search information in our personal notes if not yet in our completed work.

Cautionary notes on the use of digitised newspapers are also sounded by Lara Putnam, historian of Caribbean migration, and by film historian Richard Abel. Abel points out some practical pitfalls, mostly concentrated on the end user experience. First, there are, as noted above, geographical restrictions in newspapers selected for digitisation. Second, moving from page to page on-screen can be slow, compared to microfilm/hard copy. Third, citing Carolyn Steedman's idea that a historian's authority 'comes from *having been there* (the train to the distant city, the call number, the bundle opened, the dust…)', Abel also laments a loss of scholarly community. Working at your desk hundreds of miles from where the newspaper was actually published means not meeting local archivists, librarians and researchers who might offer useful contextual information that is otherwise unobtainable.[13] Putnam, meanwhile, simultaneously makes a strong case in favour of transnational approaches in history and a caution against *bad* transnational history, both of which, she notes, digitised sources, including newspapers, can facilitate. Digital search can, she suggests, 'open shortcuts that enable ignorance as well as knowledge'.[14] She further notes that while transnational history used to very often be the preserve of scholars at the end of their careers, who had a lifetime of international archival inquiry behind them, we are now at a stage where even postgraduates are apt to emphasise the 'transnationality' of their work.[15] However, echoing Hitchcock, Putnam notes that 'digital search has become the unacknowledged handmaiden of transnational history'[16], and this brings obvious benefits but can also entail some losses, which we may not always recognise at first as being losses. She notes instances where digitised newspapers have helped to shape aspects of her own research, but also asks, 'what does transnational history lose when the real-world friction that international research once demanded is radically reduced?'[17] Quite a lot, seems to be her answer. Like Richard Abel, she argues that the scholar gains insight by being on site, as it were, which they cannot get from their desk. Putnam seems to argue that it has almost become too easy to make comparisons across borders – or indeed, to look like one is making comparisons across borders – such that historians can, as she says, '*find* without knowing where to look'; we can 'side-glance' into place-specific historiography and do borderless term-searches which throw up new leads

and connections; she suggests that digitisation encourages a kind of superficial or 'drive-by' transnationalism, and that, essentially, to produce proper transnational history one needs to put in the weeks in the archives in the field.[18]

There is a lot in these critiques of digitised newspapers. We certainly should not lose sight of the problems inherent in the production of digitised texts, or of the potentially de-contextualised work it might lead us to produce if used without appropriate care and attention. Nevertheless, perhaps our instinct should be to be optimistic about what digitisation offers rather than overly cautious about what it obscures or inhibits. Every source an historian employs, after all, has its potential silences and misrepresentations that must be considered as part of its use; there is no *more* need to be critical of digital sources than non-digital. However, there certainly is a need to *be* critical, and perhaps in ways to which we might not yet be accustomed. Acknowledging that what we do when we use digitised newspapers is make imperfect searches in databases dictated by algorithms whose construction we had no part in and cannot fully understand should be a prerequisite. Equally, when Putnam quotes Pierre-Yves Saunier's dictum that 'going transnational is not as easy as it sounds'[19], and cautions that digitised newspapers can make it seem easy, we can agree; but we must also be aware that using digitised sources *properly* in any context is really not easy, and should not be so readily thought of as such, whether by students or seasoned historians.

10.5 New frontiers with digitised newspapers

This is a good place to move onto the Pollyannas, who, to adopt Putnam's useful distinction, take it as a given that 'the digital turn', i.e. developments in digital methodologies, should and will be informing 'the digitised turn', i.e. the mass uploading of texts online. It is certainly the case that the types of searches that can be done via digitised newspapers are much more sophisticated than anything possible with hard copy texts. One can much more easily find the first mentions of particular terms and phrases; one can find almost every press reference to a specific figure or event within the digitised corpus; and one can trace the changing frequency of particular words and terms. Bingham calls this the return of content analysis, in much less laborious form. As he also notes, digitised newspapers mean that historians can make comparisons between newspapers, between different types of sources, over time and across borders.[20] And this is not only or even primarily about time-saving – much of this type of research simply could not and would not be attempted over such a breadth of publications otherwise.

In light of this, Bob Nicholson, historian of the Victorian press, has recently argued that the digital turn could be comparable to the cultural turn in the scale of its influence, and that, indeed, cultural history may have most to gain from the digital turn.[21] Moreover, if one is interested in how certain concepts, ideas, public practises, phrases, etc. cross borders, then the proliferation of digitised newspapers across the world also has a lot to offer the transnational historian. For example, a group of researchers at Utrecht University has recently made the case for the transformative power of digitised newspapers in researching mentalities in a transnational context, detailing projects that look at issues as diverse as attitudes towards eugenics (in Germany and the Netherlands) and public debates on drugs. Using software developed for the newspaper collections of the National Library of the Netherlands that allows word association to capture complex relationships between search terms, and visualisation of the results, researchers can plot patterns in press coverage at a glance. Eijnatten et al (2013) suggest that while such text-mining of big data will not 'replace traditional hermeneutic methods in historical research', the two are complementary. They are quite clear that Digital Humanities methods cannot

‘produce a historical narrative authored by a craftsman’ but they also expect that all historians will increasingly have more direct access to some of the tools and methodologies of big data history, that these will aid their research, and that they therefore ought to use them.[22]

This stance should be heartily endorsed by all historians: we can no longer be content to be time-saving, unthinking, end users of digitised newspaper databases. Luckily, even for the IT-illiterate amongst us, there are increasingly tools available on both commercial and publicly-funded websites which allow us to go beyond simple searches, enter into the realm of big data methodologies, and, as a result, do worthwhile quantitative history with traditionally difficult source material. Below, therefore, I show how I am trying to use digitised newspaper databases and the analytical tools they offer to their full extent in relation to one strand of my current research on how the Irish Catholic Church funded itself in the late nineteenth and early twentieth centuries.[23]

One of the things that has been identified as part of that project is the use of gambling as a fundraising method in the Irish Catholic Church. My working hypothesis with this is that gambling, and specifically the lotteries attached to ‘bazaars’ organised by parish priests, nuns and others, were a means not only of raising money locally, but also of stretching the donor net well beyond Irish parish and diocesan boundaries, and relatively easily exploiting the more cash-rich and abundant Irish diaspora right around the world. Irish Catholic lotteries were a transnational cultural and economic phenomenon, in other words. I began with some merely impressionistic evidence of this; mentions of forwarding raffle tickets to migrant relatives in bishops’ pastoral letters and in sermons, occasional references to winners of bazaar prizes from abroad and so on.[24] But we are dealing with a fairly ephemeral thing, and there are not numerous fat files on lottery organisation surviving in Ireland’s Catholic archives. Indeed, at first it appeared that relatively few tickets and flyers for such lotteries – by their nature, delicate and impermanent items – survive. One could very well get the impression, from archives alone, that lotteries were an occasionally used but not that significant fundraising measure in the Irish Catholic Church. It was only when seriously starting to use digitised newspapers to check the advertising of lottery draws that the global scale of the phenomenon became clear. The first thing to note was that while searches for ‘bazaar’ or ‘lottery’ or ‘raffle’

(often in conjunction with church/Catholic etc.) might throw up a certain number of results, it became apparent as I worked through them that the appropriate term to ensure capture of most such events was in fact ‘drawing of prizes’, a phrase that cropped up in almost every mention. Trial and error in the newspaper databases themselves led to this revelation, essentially, although having some archival knowledge certainly helped in knowing what to trial. The problem was that this phrase yielded thousands of results in most databases. This would be very time-consuming to manage and it was hard to tell if it was worth the effort of going through them all. However, in many news archives, it has recently become possible to visualise results using available analytic tools, which proved instructive.

Below are a set of images generated from various digitised news databases which show the spread of results when the precise phrase ‘drawing of prizes’ is inputted.

This kind of visualisation gives me some key information, but also suggests new routes for enquiry. It tells me that the drawing of prizes was largely a post-1850 phenomenon; it suggests that it may have had a slight head start in Ireland but had spread to Australia in a big way by the 1870s. It indicates that it was a largely Irish phenomenon within the UK: the British database contains more than 2, 600 results for the term from the Dublin-based *Freeman’s Journal*, far more than from any other title in the database. This prompts all kinds of questions about what the gambling laws in different territories were, whether these peaks reflect the scale of the Irish diaspora in that period, the strength of the Irish church in that period, and so on.

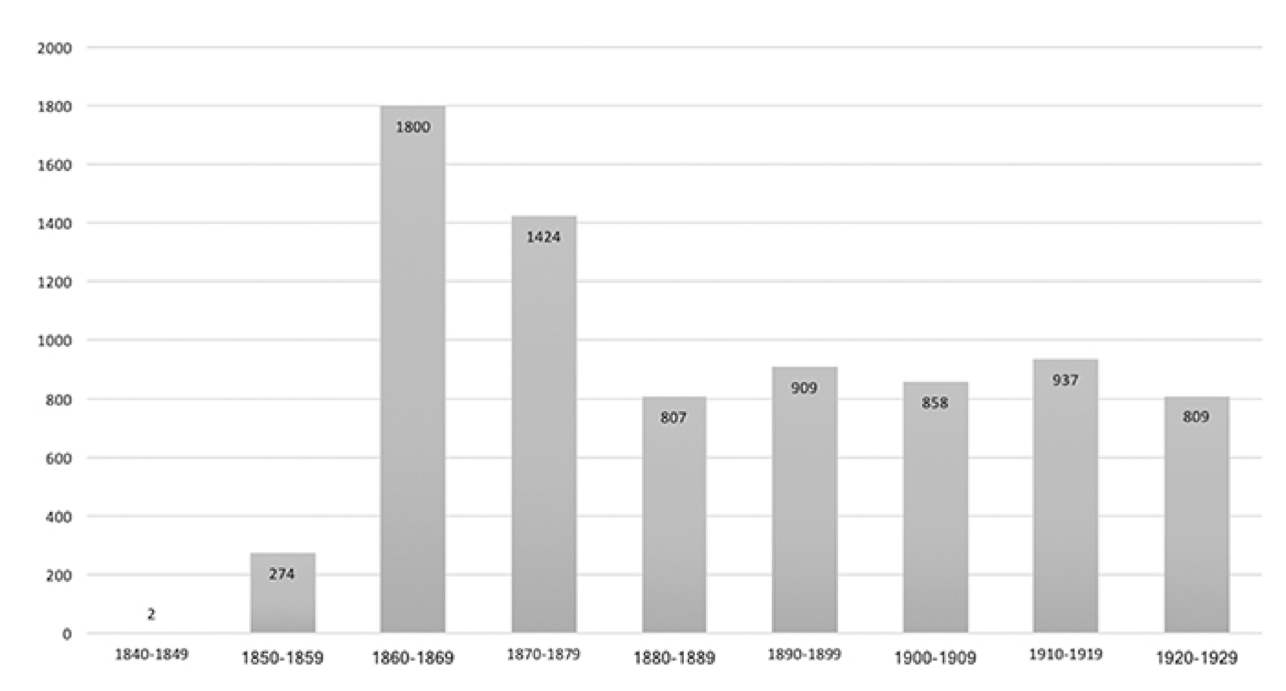


Figure 10.1 ‘Drawing of prizes’ search in Irish Newspaper Archive. Author’s own figure.



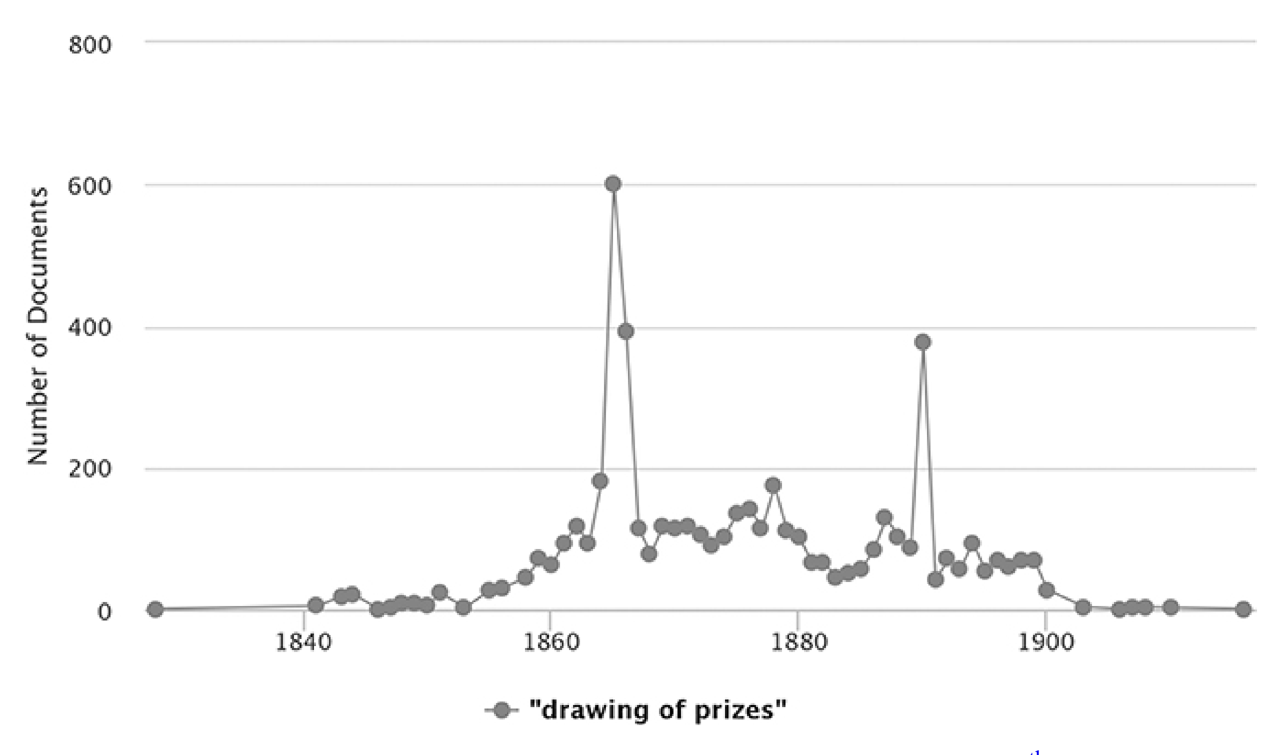


Figure 10.2 ‘Drawing of prizes’ search in Gale Primary Sources: British Library 19th-century Newspaper database. Gale Primary Sources. Reprinted with permission from Gale, a Cengage company.

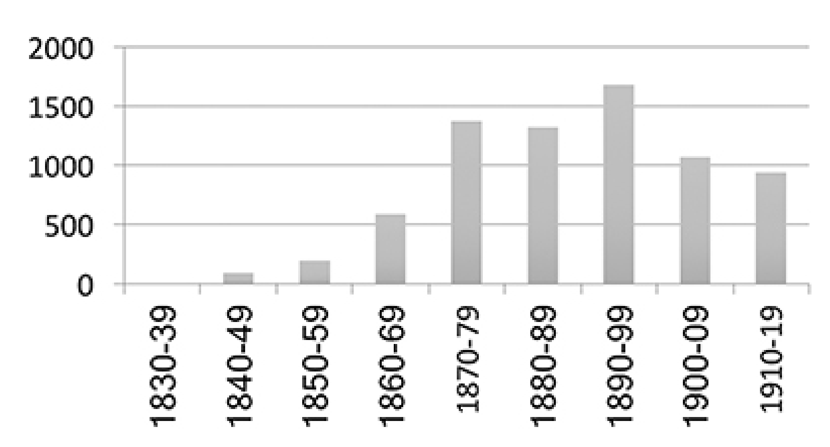


Figure 10.3 ‘Drawing of prizes’ search in Trove newspaper database (Australia). Trove.nla.gov.au. Reprinted with permission.

There is another tool that the Gale database offers which can also give a further useful steer. Below is the ‘term cluster’ tool applied to the *Freeman’s Journal* results alone: the presence of words like ‘church’, ‘sisters’, ‘father’ and so on strongly suggest that the Catholic church was heavily involved in the phenomenon. This is an imperfect tool, which only shows the most common words in the first hundred words of the first hundred results – but it is indicative, nonetheless.

Ultimately, what all of this tells me is that it is worth slogging through all these thousands of results. This ‘distant reading’, facilitated by the digitisation of newspapers and otherwise impossible, is merely a first step in a longer process of quantification. These tools indicate that a particular form of information is contained in the sources, and help formulate some questions to ask of that information once gathered. The next step is to aggregate all of these results from various news databases into a database of my own, using Microsoft Access (for database see chapter 3.3). This draws on all the information that newspapers can offer on these lotteries – objects for which the draws are raising money, the organisers, the ticket prices, the prizes, the donors of prizes, the ticket sellers, the prize winners, the locations of prize winners, donors and ticket sellers, the locations where draws were advertised or where prize winners announced. It thus reveals a web of transnational connections around which multiple queries can be built.

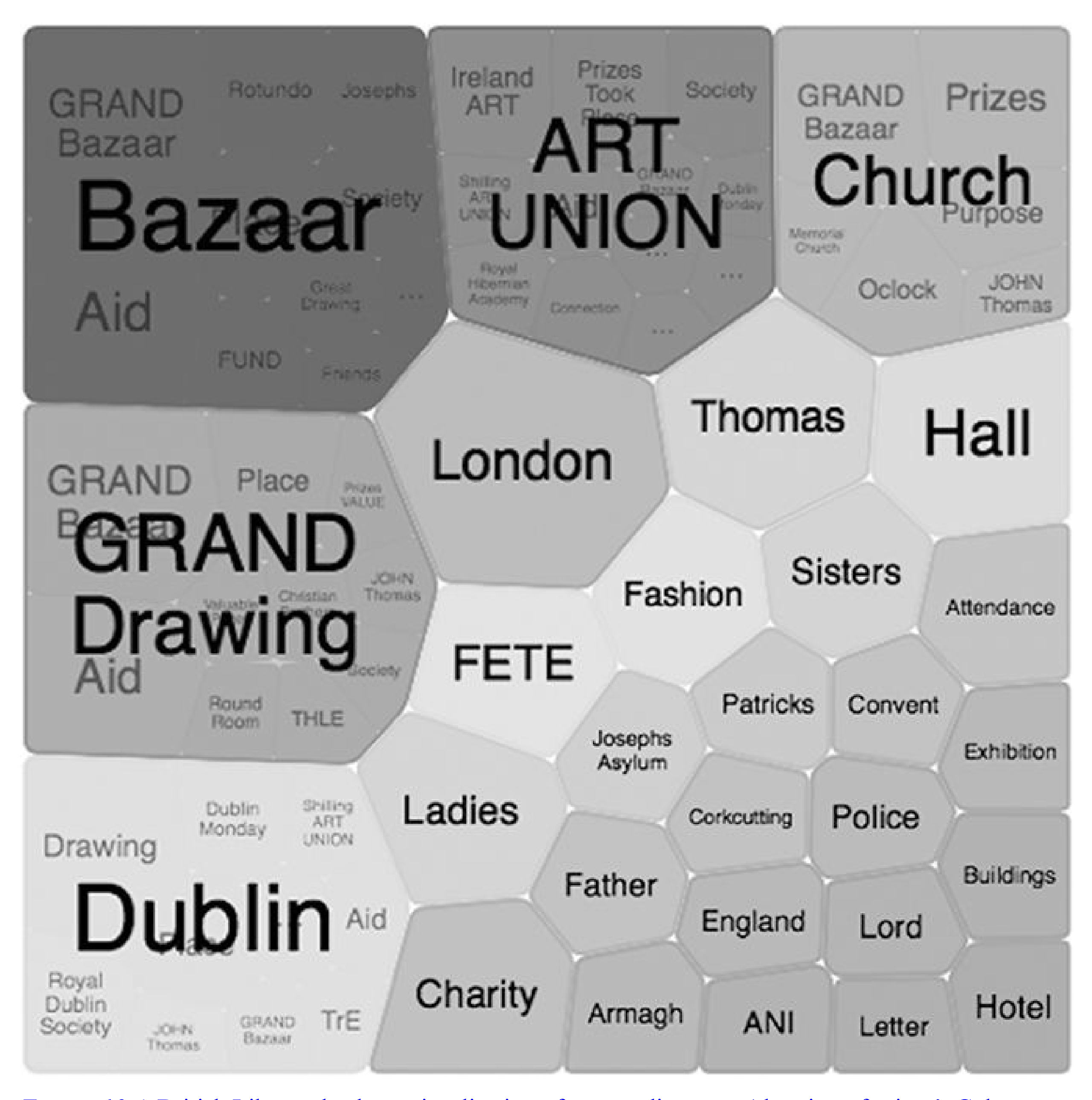


Figure 10.4 British Library database visualisation of terms adjacent to 'drawing of prizes'. Gale Primary Sources. Reprinted with permission from Gale, a Cengage company.

What applies to my own niche research interest in this case, can also apply to a much broader range of quantitative data that has hitherto been hidden away, too difficult to access, in the great volume of newsprint produced in the modern era. Take an entirely random issue of a particular newspaper: the *Liverpool Mercury* of July 24th 1900. A glance through its (digitised) pages unearths a raft of diverse, numerical data: stock exchange reports, company

dividends, subscription lists, shipping trade figures, and even the rather dubious claims of the number of people that 'Du Barry's health-restoring Revalenta arabica food' had cured of various ailments. Reports of crime, sports results, weather, charity cases, along with extensive advertising columns offer further potential for quantifying data through content analysis.[25] The potential for interesting projects, small and large, that could use this now much more accessible data is enormous.

10.6 Conclusion

Even apart from the more rigorous critiques of how we use digitised newspapers mentioned earlier, there can still be a certain sniffiness about digital newspaper databases among some historians. Article peer reviewers are still wont to note pointedly when work is based on newspapers ‘not all of which are digitized’ suggesting that there is something inherently suspect about the use of the latter. Historians can, as a result, often be apologetic about using digitised newspapers, under the assumption that they represent a lazy tool. There is also, quite rightly, some concern that undergraduate dissertations sometimes over-rely on digitised sources, particularly newspapers, so that students sometimes do not acquire the archival skills they ought to develop as part of a History degree.

While I would argue that, with the obvious exception of press history, digitised newspapers should always be complementary to other archival work, they nonetheless represent an exciting opportunity for historians of all career stages. They offer a potentially powerful lens on societies, and we should all endeavour to use that lens very carefully, systematically, and to its full potential when we do so. Ultimately, those of us who were under the impression, ten years ago, that digitised newspapers might save us some time, should acknowledge how wrong we were. Digitised newspapers make possible forms of history, particularly quantitative history, which we could never have attempted before, but those things, done properly are neither as quick nor as easy as they seem.

Available resources

This is an incomplete list of some available digitised newspaper resources. Those marked with an asterisk are free – an unfortunately rare status – but many of the others can be accessed through university and sometimes public libraries. Some of the commercial databases also have individual subscription rates that are not entirely prohibitive, and are likely, depending on one's location, considerably cheaper than a trip to the relevant national library to consult the material in hard copy.

Multi-title databases:

- 17th and 18th Century Burney Collection (1271)
- British Newspaper Archive (6229)
- Chronicling America (686)*
- Gale's 19th Century British Library Newspapers (71)
- Gale's 19th Century UK Periodicals (180)
- Gale's 19th Century US Newspapers (500) {See also Gale's Artemis Portal}
- Irish Newspaper Archive (82)
- Papers Past (New Zealand) (70)*
- Proquest British Periodicals (460)
- Proquest Historical Newspapers (36)
- Trove (Australia) (255)*
- Welsh Newspapers Online (120)*

Individual newspapers from Britain and Ireland: Irish Times; The Times; Daily Mirror; Daily Mail; Daily Express; Illustrated London News; Scotsman; Financial Times; The Economist; The Tablet

Much more newspaper databases from around the world listed here: http://icon.crl.edu/digitization.php

Meanwhile, https://www.elephind.com aims to allow searching all online historical newspapers from one place

Google's discontinued newspaper project can be found here: https://news.google.com/newspapers?hl=en

Notes

1 Adrian Bingham, 'The digitization of newspaper archives: opportunities and challenges for historians', *Twentieth Century British History*, 21:2 (2010), 225–231, at 225–6.

2 Liz Ford, '19th century newspapers go digital', *The Guardian*, 23 Oct. 2007, https://www.theguardian.com/education/2007/oct/23/highereducation.uk1

3 Daniel Allington, Sarah Brouillette and David Golumbia, 'Neoliberal tools (and archives): a political history of Digital Humanities', *LA Review of Books*, 1 May 2016, https://lareviewofbooks.org/article/neoliberal-tools-archives-political-history-digital-humanities/; Matthew Kirschenbaum, 'Am I a Digital Humanist? Confessions of a neoliberal tool', *Medium*, 12 May 2016, https://medium.com/@mkirschenbaum/am-i-a-digital-humanist-confessions-of-a-neoliberal-tool-1bc64caaa984.

4 A. J. P. Taylor, 'Historical wisdom' in *British Prime Ministers and Other Essays* (London: Penguin, 1999), p. 415.

5 Tim Hitchcock, 'Confronting the digital', *Cultural and Social History*, 10:1 (2013), 9–23, at 14. As Hitchcock notes, 'Googleization' is even more problematic in the realm of digitized books, where the Google Books algorithm generates a list of search results whose hierarchy is unknown and largely unknowable to the researchers using it.

6 Bingham, 'Digitization of newspaper archives', 230.

7 Sarah Roddy, Julie-Marie Strange and Bertrand Taithe, *The Charity Market and Humanitarianism in Britain, 1870–1912* (London: Bloomsbury, 2018).

8 Charles Upchurch, 'Full-text databases and historical research: cautionary results from a ten-year study', *Journal of Social History*, 46 (2012), 89–105; Hieke Huistra and Bram Mellink, 'Phrasing history: selecting sources in digital repositories', *Historical Methods: A Journal of Quantitative and Interdisciplinary History*, 49:4 (2016), 220–229.

9 Patrick Leary, 'Googling the Victorians', *Journal of Victorian Culture*, 10:1 (2005), 72–86.

10 Bingham, 'Digitization of newspaper archives', 229.

11 Hitchcock, 'Confronting the digital', 6.

12 Ibid, 18–19.

13 Richard Abel, 'The perils and pleasures of big data in digitized newspaper databases', *Film History: An International Journal*, 25:1–2 (2013), 1–10.

14 Lara Putnam, 'The transnational and the text-searchable: digitized sources and the shadows they cast', *American Historical Review*, 121:2 (2016), 377–402, at 379.

15 Ibid, p. 394.

16 Ibid, p. 377.

17 Ibid, p. 380.

18 Ibid, pp. 380, 398.

19 Putnam, 'The transnational and the text-searchable', 397.

20 Bingham, 'Digitization of newspaper archives', 229.

21 Bob Nicholson, 'The digital turn', *Media History*, 19:1 (2013), 59–73, at 63.

22 Joris Van Eijnatten, Toine Pieters and Jaap Verheul, 'Big Data for global history: the transformative promise of Digital Humanities', *BMGN – Low Countries Historical Review*, 128:4 (2013), 55–77, at 58, 76.

23 *Visible Divinity: Money and Irish Catholicism, 1850–1921* ESRC project number ES/N002105/1.

24 Sarah Roddy, 'The spoils of spiritual empire: emigrant contributions to nineteenth-century Irish Catholic church-building', *Journal of Irish and Scottish Studies*, 5:2 (2012), 95–111.



25 *Liverpool Mercury*, 24th July 1900 Gale British Library 19th-century Newspapers, https://go-gale-com.manchester.idm.oclc.org/ps/navigateToIssue?loadFormat=page&userGroupName=jrycal5&inPS=true&mCode=1ZTU&prodId=BNCN&issueDate=119000724 accessed 29 June 2018.

10.7 Further reading

Bingham, Adrian, 'The digitization of newspaper archives: opportunities and challenges for historians', *Twentieth Century British History*, 21:2(2010), 225–231.

Hitchcock, Tim, 'Confronting the digital or how academic history writing lost the plot', *Cultural and Social History*, 10(2013), 9–23.

Nicholson, Bob, 'Counting culture; or, how to read Victorian newspapers from a distance', *Journal of Victorian Culture*, 17:2(2012), 238–246.

Van Eijnatten, Joris, Toine Pieters and Jaap Verheul, 'Big Data for global history: the transformative promise of Digital Humanities', *BMGN – Low Countries Historical Review*, 128:4 (2013), 55–77.

11 Monsieur le Directeur

Letters and 'ordinary' investors in modern France

Alexia Yates

Ste Marie, 16 November 1885

To Monsieur le Directeur, Crédit Foncier de France

Monsieur,

I would like to inform you that in the town of Sainte-Marie, Ile de Ré, two men have been seen, one calling himself a general inspector and the other an agent from the Banque de crédit, No.16 Rue drouot, paris. these men asked and pleaded with us to take bonds on credit by paying 20 francs on subscription and 10 francs per month afterwards and with a right to six drawings per year per bond and promising prizes of 100 thousand francs and others only since these bonds say on the top Banque de Crédit LLC capitalized at 500 000 francs headquarters 19 rue drouot paris […] I cannot believe that it is actually directly from the Crédit Foncier de France what makes me think so is that on the day they were issued they were quoted at 435 francs and the ones they were asking us to buy meant making 64 monthly payments of 20 francs for the first and 10 francs for the others which would make a total of 650 francs only they did say that we wouldn't make all 64 payments because all the bonds would be freed up on the 5th of May 1888 and that those which hadn't been drawn yet would still be reimbursed at a thousand francs.

So please, Monsieur le Directeur, give us some information on this situation because we should have received a coupon for 7fr50 per bond on the 5th of November and as of this writing we have received nothing.

I am, with the deepest respect, Monsieur le Directeur, your humble and obedient servant,

Banier Manguis, Miller

Ste Marie Ile de Ré (Chte infer [Charente Inférieure])[1]

Manguis's letter to the director of the Crédit Foncier the France, France's central mortgage bank and one of the country's largest financial institutions, is an example of hundreds of such missives penned by vigilant investors in the final decades of the nineteenth century. They can now be found in the archives of the country's banks, filed in dossiers marked 'complaints', 'correspondence', or occasionally – as Manguis's letter might lead us to predict – 'fraud', as well as in the collections of the Ministry of Foreign

Affairs (for investors who ventured their capital abroad) and the national police authorities. Such letters came from across the country, the empire, and abroad as individuals encountered the new sales methods and innovative financial instruments designed to attract modest savers and novice investors to financial markets. They tell of 'very elegantly dressed' salesmen sporting handsome leather briefcases, of sales contracts with their vignettes representing 'Work' and 'Savings', designed 'to trick clients, especially clients like those found here, who for the most part cannot read,' of networks of friends and colleagues who, from tiny towns like Sainte-Marie, decided together to venture their savings on enticing investment opportunities that overflowed from the capital and other large cities.[2] They thus provide rich slices of information on ordinary people's economic lives. When read individually, they offer a first step into the practices and experience of financial decision-making in particular times and places, granting access to the kind of individual that does not normally leave records of estate management or economic planning. When read as a corpus, they offer the building blocks of an economic imaginary, as well as the opportunity to develop a quantitative and geographic picture of the distribution of small investors.

It is not conventional to start an account of the history of finance in the first age of global capital with someone like Banier Manguis, a miller writing from a village on an island off the west coast of France. Yet the existence of such letters and the concerns they contain direct our attention to the practices and imperatives that were reorganising the geography and demography of France's financial markets at the end of the nineteenth century. By the turn of the century, the Paris Exchange – the Bourse – was the second largest in the world, and engagement in financial markets had become popular on a previously unknown scale.[3] From the 1860s, newly developed banking houses, nicknamed 'financial department stores' by their friends and 'securities' shops' by foes, spread their branches across the country; from a combined 47 in 1870, branches of the Société Générale, Crédit Lyonnais, and the Comptoir d'Escompte grew to 1 303 by 1912.[4] Over the same period, the number of financial circulars also increased dramatically, spreading along with a blossoming new occupation, the traveling securities salesman, dubbed by one gazette in 1885 an entirely 'new industry […] practiced today at an unbelievably large scale [so that]

the same small investor may be successively visited by brokers from four or five competing agencies.'[5] All of these changes were building on the democratisation of the market fuelled by the expansion of the national debt and the state's adoption of direct marketing practices for its loans which, from the time of the Crimean War in 1855, were issued directly to the saving public via an extensive network of public financial bureaus, rather than brokered solely through the offices of large banking houses.[6] The expansion of the financial market was a clear priority of republican governments after 1870. It accorded with a liberal ideology that included securities ownership as part of the basis of a harmonious, property-owning society, as well as acting as a key component of economic growth and fiscal revenue. Moreover, as an alternative to tax increases, expanded public borrowing served the interests of propertied classes, who strenuously resisted funding increasing state expenditures through any growth of mandatory contributions.[7]

How ordinary people encountered, thought about, and navigated this new economic landscape has not garnered sufficient attention, despite a recent enthusiasm for new histories of economic life.[8] As Emma Rothschild has shown in her work on eighteenth-century Angoulême, global commerce and imperial migration composed networks of connections that thoroughly implicated ordinary people in seemingly isolated locales in wider channels of exchange and mobility; the movement of people, goods, and information ensured that the global economy was salient even for humble individuals.[9] France in the late nineteenth century remained a highly unequal society, with more than 50% of individuals (70% in Paris, the city that concentrated the country's richest *and* poorest) having no estate to bequeath upon their death. Yet unprecedented numbers of middle- and working-class people were seeking and gaining access to investment, and for those who did leave estates (at least in Paris), 65% of wealth was held in financial assets by 1900.[10] The importance of a history of global markets incorporating and privileging the perspective of non-elite actors increases with the growth of modern financial infrastructures.

As work in economic sociology and anthropology has thoroughly established, financial markets are far from naturally occurring economic structures. They are social innovations, political products, and complex

technical arrangements that involve tremendous work of invention, contestation, and legitimation.[11] This is particularly true of the emergence of mass investment – the encounter, as one historian has recently put it, of Wall Street and Main Street.[12] Studies that have addressed France's expanding financial sector in this period tend to focus on the contribution of investment to economic growth, on the efficacy of the country's economic institutions and the rationality of its investors' decisions.[13] In these studies, individual investors count for little, and modest investors, because of their relative macroeconomic insignificance, even less. Yet the process by which the stock market – and the state and international institutions on which it relied – came to be understood as a quotidian element of modern citizens' economic lives was shaped in significant measure by these small investments. So, too, was the political salience of financial markets, their place in public conversations about the course of modernisation and globalisation. To understand the place of everyday practice and lay knowledge in the construction and transformation of local economic cultures and international markets we need new sources and new interpretative lenses capable of reconciling the world of the material with the world of *mentalité*.[14]

In this chapter, I present an argument for the importance of qualitative analysis and ego-documents to the study of economic history.[15] The chapter focuses particularly on letters written to national financial authorities, primarily the Crédit Foncier and the Banque de France. In these sources, individual investors represent themselves – their aspirations, worries and demands – as market actors to key economic authorities. While historians can readily access material that speaks *to* potential investors – material such as investment guides, advertising, even legislation shaping the legal boundaries of investment – accessing sources that allow us to understand what people *thought* of those messages is more elusive. Ego documents are multiple in their form and disparate in location – they range from letters and petitions to diaries and autobiographies – and can come to light in the course of researching a host of topics.[16] Investigating these letters as a genre, rather than as a source of information about a particular individual, can thus involve considerable work of assemblage across multiple archives. The letters analysed here have the benefit of being collected by authorities, whose work of classification and organisation lends them a kind of initial

coherence. The correspondents share certain attributes – they are inquiring after similar kinds of investments, for instance, and their letters shared similar fates. Most, like the miller Manguis, had encountered finance through novel means and found themselves in need of guidance and redress. While limited in their ability to represent a more general financial experience, they nevertheless offer an important vantage on a little-known slice of the investing public. It was in part through practices such as self-representation to authorities in these letters that members of this group come to consider themselves as part of a specific political and economic demographic.

Analysts of such a corpus must reckon with the particular nature of these documents. These letters vary greatly in style and sophistication, adhering to the conventions of formal letter-writing on the whole but not in their entirety. They are addressed directly to nationally important functionaries who were strangers to the writer, and that writer may or may not have been aware of the multiple hands and bureaus through which their letters would pass (though most seemed certain of a response, even if they rarely included return postage). Written to unknown but authoritative figures, they are both personal and impersonal, and the relationship between writer and recipient asymmetrical. For the writer, a relation to the addressee is established as the moment of letter-writing pulls the author out of their immediate surroundings and into imagined dialogue with their correspondent; the reader, who is not always the addressee, works first and foremost to categorise the letter in order to facilitate processing of the request, and the possible eventual response. The filing of the correspondence (should any further ensue) and the system of form responses used by the Crédit Foncier and the Banque de France show this work of typologising clearly. While writers appealed directly to the goodness and solicitude of the person in charge of the bank, 'certain in advance of your deep sympathy for any person who might require information about your administration,' the institution that replied was conscious of its moral and legal obligations as an imagined corporate 'person' and so formulaic in its responses.[17] Unlike some other bodies of correspondence, these letters do not constitute ongoing exchanges that persist over time, nor, in the present state of research, can these fragments be supplemented by a broader picture of how they fit into the epistolary relations of any particular writer. Awkwardness of expression,

run-on sentences, inconsistent grammar, and/or unreliable handwriting might indicate that a particular missive was something of an unusual venture for a writer, speaking to the importance of the matter at hand. Such inferences must remain speculative, but can be accumulated through qualitative analysis to develop a range of potential positionalities vis-à-vis the matters at hand. The letters represent numerous performative moments in which individuals articulate their predicaments in a manner they believe will generate the desired intervention from those they address. In this way, they might be usefully compared to the 'pauper letters' which have proven such rich sources for the history of the experience and representation of poverty – though to date investor letters are less numerous.[18] While recognising the limitations of these sources, it remains that without them the experience and emotion of investing for ordinary people – a peopled and personal history of financial innovation and expansion – would be erased.

Most broadly, these letters indicate that small investors frequently recognised a need for reliable and authoritative financial information, and they stand to inform us on the level of financial literacy that prevailed among the uninitiated. Amidst complaints about the actions of particular companies and brokerages, people wrote to authorities in order to seek general financial advice, asking about the legality as well as the *viability* of particular enterprises. National police forces, who received hundreds of inquiries on financial enterprises at the turn of the twentieth century, evidenced persistent concern with the vulnerability of the small provincial saver or modest urban investor. By 1900, legislators would introduce laws regulating and restricting the credit sales of securities precisely in order to build legal capacity against the predatory sales practices often chronicled in these letters.[19] In this context, institutions like the Crédit Foncier faced a quandary: from the 1870s, it actively sought the widest possible market for its securities, placing billions of francs in bonds backed on a pool of mortgage debt, but this expansion inevitably multiplied opportunities for fraud and incrimination. Loathe to become implicated in any fashion in the numerous ventures and schemes that nonetheless helped spread their bonds throughout the country, the company limited itself to printing occasional advisories in provincial newspapers warning against credit sales and unofficial brokers.[20] In advertisements and articles, the company characterised its audience as 'small savers, industrious and thrifty, but with

no knowledge of business or stock quotations, and so fooled by inaccurate or incomplete information.'[21] Yet for all that police and legislators were concerned about the credulity and ineptitude of novice investors, these letters often showed a reasonable skepticism toward the promises tantalisingly laid out across gazettes and brochures. Investors frequently wrote to verify offers before investing, for instance, or to query reports of operations in their vicinity. Inquiries like that of Augustine Berthelot, who wrote from Paris to the Bank of France in 1884 in an effort to confirm the existence of four securities she had recently purchased from a salesman, indicated good familiarity with the workings of sales companies and the nature of the contracts they peddled. 'According to the statutes of the company,' she explained, after listing the bonds' serial numbers, 'the securities should be the property of the subscriber [;] having already paid in a considerable sum I ask you to kindly let me know if I am safe to continue my payments.'[22] Frequently writers were misguided in their decisions, but not unfamiliar with the proper operations of commerce and finance.

For reasons that will become clear in a moment, the Bank of France was a common destination for investor letters. Servants, tradesmen, property owners, farmers, gardeners, accountants, builders, teachers, lawyers, hair stylists and saddle makers were among those who penned anxious inquiries directly to the governor of the bank in the 1880s and 1890s in search of investment advice.[23] Sometimes these writers sought general financial insight: in an 1886 letter, Guimaître, an employee at Paris's Hotel Scribe, had a friend who could read and write help him ask the Governor for guidance so that he could feel more secure about the different sorts of bonds he had recently purchased from one Maison du Compte Courant; one J. Darras wrote from Les Andelys, not too far from Paris, in 1887 to get advice on buying bonds in the Panama Canal company. But a particular body of correspondence stemmed from the scores of new investors who wrote the bank to check on securities that salesmen offering instalment plans claimed (truthfully and otherwise) remained on deposit at the Bank of France until full payment. This was one of the ways that securities found their way into the hands of a broad consuming public: small agencies and itinerant salesmen pioneered sales on credit of small fractions of respectable securities; they left their clients with contracts, a payment schedule and the promise that the security remained on deposit for them in the Bank of

France. Some letter writers had doubts after sending a few monthly payments to an agency and wished to confirm that the enterprise was solid and reputable; others had paid for several years but then suddenly stopped receiving receipts and were worried that their 1/10 of a Crédit Foncier or their ¼ of a City of Paris or City of Brussels bonds were at risk. In 1885, Pierre G., a police officer in Montreuil-Bellay, stopped receiving the financial gazette that was supposed to come with his subscription and became suspicious; Félix Goutet in Audes had completed his payments by October 1886, but then heard nothing…

Such letters offer a compelling impressionistic account of the country's permeation by financial brokerages; of the eagerness of the most diverse range of individuals for reliable investment opportunities, and the perceived naturalness of their availability; of the anxiety and hope and profoundly uncertain decision-making that accompanied these practices – in sum, of the multiple potentials of the economic lives they cemented. They arrived on desks in the hundreds; some were written on business stationary with formal salutations, others on scraps of paper in shaky handwriting with poor grammar. Writers were often already convinced of their folly ('I've let myself be taken in by a broker,' as one Milhas wrote in 1901; 'I was naïve enough to give 450 francs to a bank called "Credit Bank"' Jougier complained in 1887); others were growing uneasy ('I'm beginning to have doubts about my little transaction … shouldn't I be receiving coupons?' Mlle Lubonis wondered from Monaco in 1884; 'I'm learning that many people have fallen victim in these kinds of operations,' Emile Henriot wrote from Algeria in 1889).[24] In nearly all cases, the Bank's reply was the same: it was unable to provide assistance, particularly if what the writer required was information on a client's (broker's) deposits. '*Secret professionnel*' forbade disclosure of such matters – even when internal documents reveal that the bank was well aware of the fraudulent activities of a particular intermediary.[25] When viewed as a corpus, the letters provide names and addresses that can be mapped to show the geographic spread of investment networks. (See Figure 11.1.)



Figure 11.1 Map showing the origin of letters inquiring after securities at the Bank of France in the 1880s and 1890s. Map Data: Author and Google Earth.

It is easy to imagine that an individual, worried they've made a serious error with their money management, would find the impersonal and authoritative responses of officials in Paris at once credible and blissfully private. Revealing the likelihood that they've been duped was perhaps easier for some to commit to paper, only to be read by a distant, unknown correspondent, than to inquire with friends or local authorities. Yet writers did also give evidence of reaching out to local sources; local notables, commonly mayors, occasionally drafted letters to the Bank in order to inquire about operatives in their area and on behalf of residents. In 1889, the Deputy for the Bouches-du-Rhône department wrote the Crédit Foncier on behalf of a group of farmers from his region who subscribed to bonds from an allegedly fraudulent sales agency, wondering what restitution 'these small subscribers, so worthy of consideration' might expect.[26] Letter writers sometimes indicated that they came to the conclusion that they needed further information after hearing reports on possible frauds or speaking with neighbours about a particular salesman. Paulin Hussenet, a farmer from Egriselles-le-Bocage in the Yonne, wrote to the Crédit Foncier in 1894 to ask

after a particular broker in his region, indicating that 'Other people with whom I've conferred have indicated that I may have had dealings with an imposter.'[27]

Nevertheless, these letters demonstrate that reliable information lagged significantly behind the reach of investment brokerage. Writers pleaded ignorance, apologised for causing annoyance, and expressed confusion over where to turn for enlightenment. One M. Duzon, an oyster merchant from the small town of Chaillevette, excused himself for bothering the Bank's Governor but explained in November 1884 that 'us rural folk, we need guidance,' and proceeded to inquire after the bonds to which he had subscribed from the Banque de Crédit des Valeurs à Lots in the name of two female family members. In 1885, a grocer from Prouilly expressed similar concerns, writing that 'in the countryside we are often defrauded and never have enough information.' That the Governor of the Bank of France in Paris – or the head of Paris's police force, or of the Crédit Foncier – appeared as the appropriate interlocutor for a hair stylist from La Rochelle, a bookseller from Montataire (Oise), a surveyor from the Jura, and a bailiff from the Vendée tells us something about the gravity of these decisions, a possible scarcity of local assistance, and an awareness of the national – perhaps international – nature of investment practices and financial information. These inquirers were trying to act as the science of financial investment advised them, but finding it desperately hard to be sure of their steps.

I suggest these letters help to draw some useful observations about the 'ordinary investors' populating this period's rapidly transforming financial markets. Studies of the spread and legitimation of financial markets in the nineteenth century tell us much about the way these markets, via the writings of economists, journalists, and other financial popularisers, suggested appropriate modes for economic engagement – importantly, the rational and calculative mode. Investor letters are examples of how people engage with those suggestions. Even as victims of possible swindlers – moments, we might say, when instantiations of the real economy are being revealed as fictions – writers present themselves as entitled members of the financial public. The key roles performed in these archives of uncertainty are familial ones; wives write on behalf of unfortunate husbands, fathers write in the interest of dispossessed children, children write to mitigate the mistakes of their parents. Novel financial practices are enfolded in the traditional notion

of the family as a multigenerational, property owning and managing unit. They show an ordinariness to finance even in the midst of moments when its operations are by no means those that participants expected. They also reveal the intensely peopled and personal nature of that arena. Clearly there are biases and limitations inherent in this particular accumulation of discrete moments in which individuals are reaching out to learn about and rationalise an economic decision. But they are nevertheless productive for tracing the means and modes by which an increasingly broad public understood, encountered and experienced investment, demonstrating the relevance of the emotional and the local to the widening networks of finance. These are crucial elements of the political and cultural salience of finance which remain occluded by purely quantitative measures of investment.

Notes

1 Archives Nationales du Monde du Travail [hereafter ANMT] 2003 040 562: Letter from Banier Manguis to the Director of the Crédit Foncier, 16 November 1885.

2 ANMT 2003 040 562: Draft of Letter from Governor of the CF to Director of the Châteauroux branch, 8 May 1894; Letter from Eugène Langevin, property owner in Fey, Calvados to the Deputy Governor (Lévêque) of the Crédit Foncier, 8 April 1888.

3 See Pierre-Cyrille Hautcoeur, ed., *Le marché financier français au XIXe siècle. T. 1: Récit* (Paris: Publications de la Sorbonne, 2007), esp. Chapter 9, and Charles Freedeman, *The Triumph of Corporate Capitalism in France, 1867–1914* (Rochester: University of Rochester Press, 1993).

4 Freedeman, *Triumph of Corporate Capitalism*, p. 67. The term 'grands magasins financiers' was often employed by liberal economist Paul Leory-Beaulieu. See Lysis [pseudo. Eugène Letailleur], *Contre l'oligarchie financière en France* (Paris: Aux Bureaux de *La Revue*, 1908), pp. 15–16. Claudio Jannet, *Le Capital, la spéculation et la finance au XIXe siècle* (Paris: Plon, 1892), 157. The phrase 'magasins de valeurs' is employed in the investment advice manual of Jacques Bainville, *Après la Guerre. Comment placer sa fortune* (Paris: Nouvelle Librairie Nationale, 1919), p. 216.

5 'Les ventes à tempérament,' *La Finance Nouvelle*, 12 February 1885. Clipping in ANMT 2003 040 562.

6 David Todd and Alexia Yates, 'Public Debt and Democratic Statecraft in Nineteenth-Century France,' in Nicolas Delalande and Nicolas Barrèyre, eds., *A World of Public Debts: A Political History* (Palgrave MacMillan, forthcoming).

7 Jean Garrigues, *La République des hommes d'affaires* (Paris: Aubier, 1997); Richard Bonney, 'The Apogee and Fall of the French Rentier Regime, 1801–1914,' in José Luis Cardoso and Pedro Lains, eds., *Paying for the Liberal State: The Rise of Public Finance in Nineteenth-Century Europe* (Cambridge: Cambridge University Press, 2010), pp. 81–102; Stephen Sawyer, 'A Fiscal Revolution: Statecraft in France's Early Third Republic,' *The American Historical Review*, vol. 121 no.4 (October 2016): 1141–1166.

8 Much new work on the history of capitalism in France has focused on the eighteenth century and revolutionary era, rather than the modern or contemporary period. See Clare Crowston, *Credit,*

Fashion, Sex: Economies of Regard in Old Regime France (Durham, NC: Duke University Press, 2013); Paul Cheney, *Revolutionary Commerce: Globalization and the French Monarchy* (Cambridge, MA: Harvard University Press, 2010); Rebecca Spang, *Stuff and Money in the Time of the French Revolution* (Cambridge, MA: Harvard University Press, 2015).

9 Emma Rothschild, 'Isolation and Economic Life in Eighteenth-century France,' *The American Historical Review*, vol. 119 no.4 (2014): 1055–1082.

10 Thomas Piketty, Gilles Postel-Vinay and Jean-Laurent Rosenthal, 'Inherited vs. Self-made Wealth: Theory and Evidence from a Rentier Society (Paris 1872–1927),' *Explorations in Economic History*, 51 (2014): 21–40, pp. 30, 33.

11 Donald MacKenzie, *An Engine, not a Camera: How Financial Models Shape Markets* (Cambridge: MIT Press, 2006). Recent anthropological and social studies of finance literature has much enriched our understanding of the construction of the stock market as both icon of modern markets and physical trading site: Caitlin Zaloom, *Out of the Pits: Traders and Technology from Chicago to London* (Chicago: University of Chicago Press, 2006); Karen Ho, *Liquidated: An Ethnography of Wall Street* (Durham, NC: Duke University Press, 2009); Koray Çaliskan, 'Price as a Market Device: Cotton Trading in Izmir Mercantile Exchange,' in Michel Callon, Yuval Millo and Fabian Muniesa, eds., *Market Devices* (London: Blackwell Publishing, 2007), pp. 241–262; Marie-France Garcia-Parpet, 'The Social Construction of a Perfect Market,' in Donald MacKenzie, Fabian Muniesa and Lucia Siu, eds., *Do Economists Make Markets? On the Performativity of Economics* (Princeton: Princeton University Press, 2007), pp. 20–53.

12 Julia Ott, *When Wall Street Met Main Street: The Quest for an Investors' Democracy* (Cambridge: Harvard University Press, 2011); Alex Preda 'The Rise of the Popular Investor: Financial Knowledge and Investing in England and France, 1840–1880,' *The Sociological Quarterly*, vol. 42 no. 2 (2001): 205–232; David Hochfelder, 'Where the Common People Could Speculate: The Ticker, Bucket Shops, and the Origins of Popular Participation in Financial Markets,' *Journal of American History*, vol. 93 no. 2 (September 2006): 335–358; Peter Knight, *Reading the Market: Genres of Financial Capitalism in Gilded Age America* (Baltimore: Johns Hopkins University Press, 2016). The figure of the individual investor – rather than individual investors themselves – is discussed in Alex Preda, 'The Investor as a Cultural Figure in Global Capitalism,' in Karin Knorr-Cetina and Alex Preda, eds., *The Sociology of Financial Markets* (Oxford: Oxford University Press, 2004); Mary Poovey, 'Writing about Finance in Victorian England: Disclosure and Secrecy in the Culture of Investment,' *Victorian Studies*, 15 (Autumn 2002): 17–41.

13 Pierre-Cyrille Hautcoeur and Angelo Riva, 'The Paris Financial Market in the 19th Century: Complementarities and Competition in Microstructures,' *Economic History Review*, 65 (November 2012): 1326–1353; Antoine Parent and Christophe Rault, 'The Influences Affecting French Assets Abroad Prior to 1914,' *The Journal of Economic History*, 64 (2004): 328–62; Rui Esteves, 'The Belle Epoque of International Finance. French Capital Exports 1880–1914,' Department of Economics Discussion Paper Series, 534 (University of Oxford, 2011); David Le Bris, 'Why Did French Savers Buy Foreign Assets before 1914? A Decomposition of the Benefits from Diversification,' *Recherches économiques de Louvain*, 79 (2013): 71–89.

14 Ken Lipartito, 'Connecting the Cultural and the Material in Business History,' *Enterprise and Society*, 14 (2013): 686–704.

15 For a consideration of the terminology relating to sources of the self, see Penny Summerfield, *Histories of the Self: Personal Narratives and Historical Practice* (London: Routledge, 2018).

16 For examples of works of economic history that interrogate family and business correspondence as sources, see Anne Murphy, ed., *The Worlds of the Jeake Family of Rye, 1640–1730* (Oxford: Oxford University Press, 2018); Andrew Popp and Robin Holt, 'Entrepreneurship and Being: The

Case of the Shaws,' *Entrepreneurship and Regional Development*, 25 (January 2013): 52–68; Deborah Cohen, 'Love and Money in the Informal Empire: The British in Argentina, 1830s to the 1930s,' *Past & Present*, vol. 245, no. 1 (November 2019): 79–115. Merchant correspondence is central to the historiography of early modern commerce: Francesca Trivellato, *The Familiarity of Strangers: The Sephardi Diaspora, Livorno, and Cross-cultural Trade in the Early Modern Period* (New Haven, CT: Yale University Press, 2009); Toby Ditz, 'Formative Ventures: Eighteenth Century Commercial Letters and the Articulation of Experience,' in Rebecca Earle, ed., *Epistolary Selves: Letters and Letter-writers 1600–1945* (Aldershot, UK: Ashgate, 1999), pp. 59–77.

17 ANMT 2003 040 562: Letter from Paulin Hussenet to the Director, Crédit Foncier, 13 February 1894.

18 There is a well-developed literature on pauper letters and a 'new' history of poverty, focused largely on the UK. See key works: Thomas Sokoll, 'Writing for Relief: Rhetoric in English Pauper Letters, 1800–1834,' in Andreas Gestrich, Steven King and Lutz Raphael, eds., *Being Poor in Modern Europe: Historical Perspectives, 1800–1940* (Oxford: Peter Lang, 2006), pp. 91–112, and Alannah Tomkins, '"I Mak Bould to Wrigt": First Person Narratives in the History of Poverty in England, c.1750–1900,' *History Compass*, 9 (2011): 365–373.

19 The law of 12 March 1900 imposed regulations on the contract terms for credit sales of securities, requiring that payment periods be limited to two years and that the rates of securities on the exchange be communicated clearly in sales contracts. The law of 8 August 1935 regulated securities brokers, requiring permits and various proofs of good conduct in order to engage in the practice. See Roger Roche, *La Réglementation du colportage et du démarchage en matière de valeurs mobilières d'après les decrets-lois de 1935*. Thèse pour le doctorat, Faculté de Droit de l'Université de Lyon (Lyon: Bosc Frères, 1936).

20 ANMT 2003 040 562: Note par le gouverneur, destiné à être publié, mettant en garde le public contre les agissements des agents de vente à tempérament [n.d. 1884].

21 ANMT 2003 040 562: Projet d'article pour la *Finance Nouvelle*, 6 February 1885.

22 Archives de la Banque de France, 1060200105, Carton 61.

23 Archives de la Banque de France, 1060200105, Cartons 61 et 67.

24 Banque de France, 1060200105, Carton 61.

25 The Bank normally declined to provide letter writers information on the bank deposits of another individual (the broker or brokerage company). It did, however, intervene in instances in which it came to suspect that particular brokers were misusing securities deposited for advances.

26 ANMT 2003 040 562: Response from the Crédit Foncier to M. Leydet, député, 1 March 1889.

27 ANMT 2003 040 562: Letter from Paulin Hussenet to the Director, Crédit Foncier, 13 February 1894.

Further reading

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Entries in **bold** denote tables; entries in *italics* denote figures.